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IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. X JANUARY, 1912. No. 1

SPECIAL NOTICE!

42nd Annual Meeting of the State Society.

Del Monte is the place. April 16th, 17th and 18th—the time. Do not forget.

The usual railroad rates of one and one-third fare for the round trip will be in force.

Scientific Program. Those desiring to present papers should write to Dr. Wm. Ophuls, Lane Hospital, Clay and Webster streets, San Francisco, Calif.

The By-Laws were amended last year and the length of papers is now limited to 15 minutes; discussions are limited to 3 minutes, except the opening and closing discussions, which are allowed 5 minutes.

Reservations. Write to the Hotel Del Monte early, making your reservation for room and get a rate therefor.

April 16th, 17th and 18th, 1912.

Hotel Del Monte.

EDITORIAL NOTES.

DIORADIN ONCE MORE.

The way in which a manufacturer who is industriously striving to promote a useless remedy is abused, now-a-days, by some journals, is enough to bring tears to the eyes of any self-respecting crocodile! Were we but crocodiles we would weep most copious (with apologies to Chimmie Fadden). All of which is but a painful part of the turgid feelings aroused by reading a circular from the "Dioradin Company," addressed "To the Physicians of California" and sub-headed "Dr. Max Rothschild's Disgraceful Editorial." According to the (of course) wonderfully glowing and encouraging "literature" of the manufacturer of this "radio-active (?) metholated iodine" (trade name, Dioradin—thus getting in the hypnotic suggestion of "radio-active"!) it is the greatest thing the world has ever seen, for the treatment of tuberculosis; and it costs *only* $25.20 for a course of treatment! In the November issue of the JOURNAL, Dr. Rothschild contributed a signed editorial embodying his experience with this wonderful (?) "radio-active" (?) remedy, which editorial he very temperately and with proper moderation concluded as follows: "It is evidently one of the many new drugs which are put on the market in clever fashion, and which are advertised in a most convincing manner, but which are absolutely negative in their results. This way of advertising a useless drug, and of trying to fool the profession, cannot be too strongly condemned." Dr. Rothschild is quite right. In the circular, Dr. Rothschild is called a liar because he said he cabled to Europe for some of the "wonderful" remedy, and it appears that Europe cabled back: "Never. Szendeffy." Conclusive evidence of blackest guilt! Of course, Dr. Rothschild being a sensible man, told a dealer in San Francisco to cable for the stuff. The dealer found he could get it in New York, so he wired there and got it. Dr. Rothschild did not know or care whether it came from Europe direct or from New York and did not know of the source of the dealer's supply until after this amusing incident had occurred. Great Heaven! What an awful, soul-wracking sin, what a monumental lie was perpetrated! Dr. Rothschild said he got his supply from Europe because he told the dealer to cable for it; the dealer got it for him from New York; therefore, Dr. Rothschild is branded a liar and "the profession of California" is asked to do dreadful things to him; but whether he should be boiled in oil or merely bisected, the circular does not state. It is indeed too bad that a company or an individual may no longer be permitted to foist remedies "absolutely negative in their results" upon a confiding profession. It is likewise unfortunate (for the promoters) that there are medical journals quite willing to print the truth—and competent observers who are quite willing to observe the facts and prepare them for publication.

The impudence of the "Dioradin Company" in sending out such a circular is monumental. Their

work is unbelievably crude, particularly in view of the following facts:

On careful examination, "dioradin" ("radio-active metholated iodine") was found to give no radio-active response.

Dioradin was submitted to the Council on Pharmacy and Chemistry and was "refused recognition because of the exaggerated and unwarranted claims made for it."

We are much obliged to the Dioradin Company for sending out the circular and thus giving us an opportunity to emphasize the *facts* above italicized.

"Please do not speak to us any more!"

THE SECOND DECADE.

The year 1912 brings to a close the first decade in the life of the reorganized State Society, and also of the CALIFORNIA STATE JOURNAL OF MEDICINE. Some of the years—particularly the early ones—were, to put it mildly, stormy; bad weather was the prevailing condition. So many things happened, so uphill was the work and so constantly did the stones for building roll down hill a bit upon the slightest provocation, that one thought came to be the regular daily opening of consciousness: "What will happen next?" The question did not arise, "Are we in debt?" it was always "How much do we owe?" The early years were indeed rough and stormy. We were fighting for the promotion of a few truths, and to get any truth disseminated demands repetition, reiteration—hammering home. In the hammering process, some one would occasionally get hurt; libel suits in plenty were threatened; a few were actually filed; none ever came to trial. With the close of the decade we find a great change; comparative quiet has followed the storm, though occasionally there is a little disturbance; we no longer ask "How much do we owe?" but with confidence say "What is the bank balance to-day?" That helps a good deal! But because the Society is in good condition and fairly prosperous, let us not for a moment think that the work is done. The foundation of the building is built fairly strong; now let us, during the next decade, see that the good, solid building operations continue; let us continue the work until we have a really complete and thoroughly well-built State Society; one that is so strong, so valuable to its members, so active and so continuously alive to their interests and for the public welfare, that no practicing physician in the state can afford *not* to be a member. There are many ways in which the State Society can add to and increase the benefits which it gives to its members; a number of these have been under discussion for some time past, and doubtless the coming year will see some of them begun. Because we are fairly well and fairly prosperous, don't sit back and knock; keep on building. We can make this Society the strongest thing of its kind in the land, and the most representative body of medical men organized for medical progress and public health in the United States—if we will but keep building, each doing his little best to help and not to hinder; to construct and not thoughtlessly condemn. Criticism is more valuable than compliment, for honest criticism helps in constructive effort. Criticize, suggest, recommend or kick as you will; but *let it be for the good of the Society;* let your motive be constructive and not destructive. To every member of the Society and to every reader of the JOURNAL, we wish a most prosperous New Year of higher ideals and greater achievement..

BY HIS WORKS.

Elsewhere in this issue of the JOURNAL will be found a résumé or abstract of some documents published as Bulletin No. 22 of the Los Angeles County Medical Association. Senator Works, the distinguished Eddyite representative in the United States Senate, took several hours of the Nation's time to address the Senate more or less on the subject of his health, that of his wife and the health and habits of his son, the inefficiency of "regular" doctors and the more than marvelous efficiency of "science"; by the latter term is meant so-called "Christian Science," or Eddyism. This JOURNAL has no quarrel with the honest belief or religion of anyone, so long as that belief does not endanger the public health. There is no cause for quarrel with a man if he thinks he has been chosen to be the executioner of the human race; the quarrel starts, however, when he strives to put his idea into practical operation and begin the killing. To many distinguished persons, Eddyism is really a sort of religion; we have no quarrel with them; we respect their views as we do the religious views of all honest persons who have such honest views. It is only when they try to imperil the health of the general public by forcing a return to the insanitary conditions of six thousand years ago, that a grave issue arises. In regard to a Public Health Department bill, or the so-called Owen bill, the attitude of the medical profession should be purely advisory. We can explain to the general public the facts in regard to disease dissemination and prevention; it is then for the public to decide what it shall demand for itself. What the public will demand when it fully understands the truth, there can be no doubt in the mind of a reasonable man; but it will take no little time for the thinking public to get hold of sufficient facts and draw the natural conclusions from them. At the present time we find the general public divided into four classes. One, a very small class, as yet, which understands the situation and is anxious to have the national government take charge of all public health work. Another—and by far the very largest class—which knows nothing about it all, cares less, and is more or less confused and mystified by the whole thing. Another class composed of the same elements which fought the passage of a Pure Food Bill so successfully for a number of years; the impure drug and worthless nostrum manufacturers, the adulterated food manufacturers and the like. And finally, the Eddyites who have, unfortunately for themselves, seen fit to take as a bedfellow the "League for Medical Freedom"—as the elements in the third class have seen fit to call themselves. We, as a pro-

fession, must allow these four elements or classes to fight the thing out among themselves; if we undertake to aid in the fight they all, unthinkingly, turn upon us and say that we must have some object in it. They say this because it is almost impossible for any layman to appreciate the fact that anyone can do anything unless there is "something in it for himself"; they cannot do so themselves and they think no one else can! In the Los Angeles pamphlet already referred to, ex-Senator Chandler asks Senator Works the following question: "Is Mrs. Harriet W. Works, C. S., a recorded practitioner at Los Angeles, Cal., 520 Hellman Bldg., your wife?" In addition to this we would like to ask Senator Works another question—though we know he will not answer it: "Is the Church of Christ, Scientist, with headquarters in Boston, paying you anything for your public utterances against a public health bill?"

EXTRA-MEDICAL PROSELYTING.

In these days when publicity on large questions seems to be the tendency of the hour it is of great interest to the medical world to note that trend in so far as it affects medical affairs. Our profession and medical considerations in general have certainly not suffered from lack of the calcium ion which illuminates. Dr. Wiley, "Christian Science," the Owen bill, tuberculosis work, vivisection, etc., are very much battered subjects, and our own good Senator Works (not Senator Good Works) has had a pretty bit of notoriety thrust upon him by his tampering. All these mental pabula, however, have been served without anything to make them savory until of late there have appeared from the pen of a brilliant Frenchman, Brieux, two plays which deal with hot coals, these burning subjects being the problem of artificial abortion, and our old friend, syphillis. One play is called "Maternité," the other "Les Avariés," or as Mrs. Bernard Shaw has translated them, "Maternity," and "Damaged Goods." Rather socialistic in tone is the first, for it most cleverly tries to justify the abortionist and the victim (the patient in the play can be properly called the victim, for she dies as the result of the abortion) and leaves us tremendously uncertain in our own pious minds, as to whether our orthodox attitude has after all been a logical one. The second play deals frankly and without reserve with the subject of syphilis in its most far-reaching effects and presents besides the infected father, the infant which has inherited the disease and in turn transmitted it to the wet nurse, to say nothing of the young mother who, of course, is sacrificed.

A mere recital of the stories seems bald and unspeakable ugly, but the author has employed an artistry born of genius, and the plays are achieving a tremendous vogue abroad. Here at last we have some medical matters brought to our notice in a form more compelling to the attention than anything *Collier's Weekly* or even our own *Journal of the A. M. A.* has had to offer, and since Ibsen's "Ghosts" we cannot recall anything so powerful.

The purpose of this, however, is not to impose a review or critique in these editorial columns but to think of the expediency of the arts dealing so seriously with these matters. Literature and drama in striking form presenting these problems as medicine illuminates them, it may be that through that channel and by those means the world will make the steps forward our profession works for so energetically and longs for so ardently. On the other hand the danger of the usurping of such subjects is that society will be as much misled as led, for the genius of Brieux presents truth, while on the other hand the dilettantes such as Bernard Shaw rush in with sophistries where angels fear to tread. But the greatest danger lies in the largest class of all, the panderers, who write ugliness for people to read, relying on that large amount of morbidity in people which makes them visit morgues, and for the same reason devour such literature. Of such stuff is made the class of novel of which we can cite Kauffmann's "The House of Bondage" as a type. Far be it from us to settle these affairs ex cathedra, but while we watch the world and its leaders work in our domain, let us commend and admire where commendation and admiration are due, but let us protest a bit at having the ugly subjects "dished up with too much damnable iteration." H. I. W.

SALVARSAN—A WARNING.

Salvarsan is too good a remedy in which to lose faith, even in the least. The tendency of a number of excellent men would seem to be to still consider this as a better remedy for syphilis than mercury and kali iodid. The frequent repetition of the dose of salvarsan in those cases that do not respond to one, two or three doses is becoming part of the knowledge of the layman, and he is losing, to a great extent, the faith that was engendered by the extraordinary claims for the drug in the beginning. This is due greatly to his comparison between what he was led to expect and what he now believes he can expect; therefore he is inclined to put much less faith in this remedy than does his physician. It is not an uncommon thing to have the patient, for instance one in whom the lesion is of the mucous membrane, particularly on the tongue, and is persistent, or one in whom a palmar condition resists all other methods of treatment, object to receiving the injection of salvarsan. These examples are given as they are so eminently amenable to the good effects of salvarsan and are frequently absolutely resistent to other lines of treatment. The physician is thereby handicapped by this frame of mind on the part of the patient. The important point is this: A good, sensible view of salvarsan should be taken by the physician. It should be considered preeminently as a symptomatic treatment and a marvelous one, and not as a cure-all. Let us not dispense with the time-honored remedies, which are so necessary and which so frequently act far better after the use of the arsenic. G. D. C.

DRUG THERAPY.

Recent investigations concerning the action of the alimentary secretion on members of the digitalis group lead to the suggestion that the whole subject of variability in drug action is in need of discussion and experimental verification. That drugs lose their initial effect by repetition, that the same drug may act differently on different individuals of like weight, that even in the same person the reaction may vary from time to time, are commonplaces known to all who have clinical experience. We dismiss these facts with such words as "idiosyncrasy" and the like, but in so doing give no explanation of their nature, and in fact paralyze mental effort by the suggestion of an answer. Yet these are material facts, they lie in the field of experiment, and the methods open to us are not more difficult than those that have yielded such brilliant results in biology and bacteriology. Along efforts in this direction we recall the beautiful and convincing experiments of Ehrlich, who demonstrated that pathogenic organisms produce antibodies against the drugs used for their destruction; that a failure to attain the lethal dose continually adds to the difficulty of destroying the invaders who become increasingly immune to the drug used against them. Although the doctrine of the *sterilazio magna* has only been urged against the pathogenic protozoa, its principle doubtless extends in many cases to the body cells, thus explaining the need of increasing dosage to produce a given effect. Variability in drug action in the same individual may in many cases be due to varying conditions of the alimentary secretions. Thus Dr. Worth Hale in a paper read before the Section of Pharmacology and Therapeutics at the last Annual Session of the A. M. A., showed that the digitalis group of glucocides underwent deterioration when subjected to the prolonged action of gastric juice. Furthermore, as this loss of activity seemed chiefly due to the hydrolysing action of the acid, we can readily see how variations in that very variable secretion would account for marked differences in the therapeutic action of the drug. Similar decomposition was found to occur with strophanthin, and in the case of the latter, theory is sustained by the well-known fact that the dosage when administered hypodermically is disproportionately small. This is but the commencement of a line of investigation that may ultimately do much to clear up anomalies and uncertainties in drug therapeutics. Finally, how much have we yet to learn of the biochemistry of the liver, that organ that stands watchman at the portal of the systemic circulosa, holding up, rejecting or transmuting the poisons brought to it? How much of food and drug idiosyncrasy is due to its hypo or hyperactivities? H. D'Arcy Power.

MEDICAL DEFENSE.

No criticism of the practices of liability insurance companies has been uttered by the State Society or voiced by the Journal at any time since we, as a Society, undertook the co-operative defense of our members in alleged malpractice suits. Some of them are mightily open to criticism, however. (In passing let it be noted that the defense has won every suit defended by the State Society since the work began.) It has reached our attention that some solicitors are urging our members to insure, or to keep up their policies in insurance companies, and to that end are making what we may be permitted to call false statements. They use as an argument for keeping up the policy, the false statement that the Society will not or cannot put up a bond in case of an appeal from a verdict for the plaintiff. This is absolutely untrue. The State Society will put up the statutory bond when required and do it at least as promptly as any liability insurance company. Last year, in our injunction suit against Kaplan, we were required to file a bond for $5,000.00; the bond was filed within an hour. Of course there can be no objection to your carrying insurance if you care to do so and wish to pay this money into the coffers of an insurance company. But there is no company that will or can give you any better defense than the mutual defense offered by your fellow members of the State Society. Think it over. When the agent makes these peculiar statements to you, write to this office and ascertain the truth of the matter.

HOSPITAL DEPARTMENT.

In another part of this issue will be found an article by Dr. Wm. R. Dorr, at present superintendent of St. Luke's Hospital and formerly Warden of the City and County Hospital of this city for three and one-half years, dealing with the different hospitals of San Francisco in a very general way. Hospitals having become so important an adjunct to the armamentarium of the medical profession and so comparatively little being known by the medical profession at large as to the hospital facilities, hospital changes and hospital news of the various cities and localities, the Journal will to a certain extent keep its readers posted as to the advancement of construction, management and equipment of the various hospitals throughout the state and disseminate news concerning hospitals just as it does of the various county societies.

The article in the present issue deals with the hospitals of San Francisco, giving in a general way their present status. We feel that the Journal should cover the state in this line and not only give the general news of the hospitals but also technical papers giving the details of hospital management, hospital economics, and hospital construction. We would therefore invite hospital workers throughout the state to contribute to this department. A statement of the new fixtures that have been installed, the accounting methods in use, the check system It has been produced also in the mouse, monkey, employed and the general basis on which the different hospitals are run would be undoubtedly of

value to the many physicians and surgeons connected with the management of hospitals, and by increasing the efficiency of the various hospitals be a great boon not only to the medical profession but also to that branch of the public from which the medical men gain their living, i. e., "the patients."

SPOROTRICHOSIS.

During the past few years increasing numbers of cases of sporotrichosis have been reported in the French and German journals, but comparatively few reports have appeared in the English or the American literature. The earliest known cases, however, were described in this country by Schenck (*Johns Hopkins Hospital Bulletin,* 1898) and by Hektoen in 1900. In 1906 de Beurmann and Gougerou made detailed reports and studies of cases (Ann. de Derm.) and since then the disease has been much investigated. It is probable that with a more widespread knowledge of its nature more examples of the infection will be recognized. Owing to the resemblance of some of the lesions to syphilitic gummata, tuberculosis cutis, blastomycosis, or deep seated coccogenous affections it is probable that cases have escaped notice.

Sporotrichosis is a chronic disease characterized by the presence of subcutaneous abscesses (containing grayish yellow pus), and nodules, of slow evolution and very indolent. There are fistulae from deeper abscesses and their openings have swollen margins. The crateriform lesions are especially characteristic. Visceral involvement has been observed. Generally there is no adenopathy and the patient's health is good. In most of the French cases the lesions consisted of multiple nodules and abscesses (five to thirty or more) and widely distributed without apparent order. The subcutaneous nodules which are at first hard and resistant, soften in two or three months and become adherent to the skin which becomes red or violaceous over the lesions. Finally perforation occurs, with the discharge of pus. After resolution of a nodule, often a violet cicatrix or a keloidal scar remains. The disease has occurred in patients afflicted with syphilis and also in patients having tuberculosis. Histologically the lesions resemble at times syphilis and at times tuberculosis.

The causative organism, the sporothrix, was discovered by Schenck who found that it would grow quite readily on various media and could easily be identified by that means. It is exceedingly difficult to demonstrate it in fresh specimens. The sporothrix occurs as a fine mycelium with long partitions and oval spores and there are terminal filaments which are capped by several spores. On Saboraud's peptone-agar it grows readily. The tubes should not be capped and should be left at the room temperature. The organism has been shown to grow on various animal structures (flies, caterpillars, larvae, etc.), and upon vegetables. J. N. Hyde observes that "the mold may be found in the vicinity of barnyards and untilled fields near outhouses." The disease is readily produced experimentally in the rat, in which animal an early orchitis is characteristic. cat, and guinea pig. Strange to say, the last named animal is very resistant to this form of infection. In these experimental inoculations many visceral complications have been produced. A spontaneous sporotrichosis has been observed in the rat, mule, horse and dog (three puppies in one litter).

The late J. N. Hyde and D. J. Davis (*Journal of Cutaneous Diseases,* July, 1910), in an exhaustive illustrated paper on the subject described a human case which appeared to have originated by infection from a horse. They also demonstrated that there occurs an epizootic lymphangitis in horses, due to the presence of the "sporotrichium Schenckii" and "should be described as instances of sporotrichosis." The authors further observed that the records of five previously reported human cases of sporotrichosis showed that the patients had been exposed to horses. It is probable that the infection has occurred without its nature having been recognized. An instructive article (with references) concerning this disease appeared in the *British Journal of Dermatology,* Aug., 1911.

The condition is very persistent, but potassium iodide applied locally in solution and taken internally will usually bring about a cure within four months' time. HARRY E. ALDERSON.

PUBLIC HEALTH AND ITS FOES.

The introduction into Congress of a bill by Senator Owen to create a Department of Public Health, a few years ago, aroused immediate opposition from certain questionable sources. The same interests which had opposed the Pure Food and Drugs act, opposed this bill; and probably for similar reasons. But this time they were more open in their opposition. They organized what they were pleased to call the "League for Medical Freedom," made a loud cry about the "doctors' trust" and assailed the medical profession and the American Medical Association. It was soon apparent that the Eddyites were associated with the questionable interests going to make the "League," but the Eddyites did not come out quite so openly. In fact it was some time before they disclosed their position. It is alleged that the "League" spent not less than $25,000.00 a week in supporting its lobby in Washington and in stirring up opposition to the Public Health Department bill; a good deal of this must have been spent in sending out "canned"—and tainted—news to such papers as would take it. It would be interesting to know how much, if anything, was contributed by the Eddyites.

The Eddyites' position was clearly disclosed on July 6th, 1911, when John D. Works, of Los Angeles, Senator from California, made a most remarkable and unparalleled speech in the Senate of the United States. In the course of his remarks he attacked the American Medical Association, and the medical profession generally, as being parties to a gigantic scheme to control all medical healing or treatment of the sick; to create a "medical trust." He announced his adherence to Eddyism and stated that himself, his wife and his son had been treated unsuccessfully by regular physicians and had been cured by Eddyism. The question of good taste in thus airing his personal ailments and the

afflictions of his family is, fortunately, not one that we have to discuss.

The Los Angeles County Medical Association quite naturally resented the reflections cast upon those physicians in Los Angeles (Senator Works' home) who had attended him, and wrote to the Senator on the subject. Considerable correspondence resulted and all of this, together with a valuable mass of related material, has been published in Bulletin No. 22 of the Los Angeles County Medical Association. We understand from the Secretary, Dr. George H. Kress, Bradbury Building, Los Angeles, that a copy of this Bulletin has been sent to every physician in the State. If you have not received one, or if you desire others, you can secure copies from Dr. Kress. It is unfortunate that the matter contained in this little document cannot be placed in the hands of laymen, for it is the ordinary citizen who is to settle this question in the end. The writer has made many public talks to laymen, in California and elsewhere, and has always emphasized the fact that we shall have no public health legislation until our citizens come to believe that the health of themselves and their children is at least as valuable as the health of their hogs, their cattle and their crops.

Unfortunately, it is not possible to publish the entire contents of this Bulletin in the pages of the JOURNAL, but we shall take the liberty of making certain extracts from it. In reply to the first letter, asking him most politely for the names of the physicians who treated him and his family unsuccessfully, Senator Works sent a most peculiar letter. He refused to give the information, apparently basing his objection on the ground of questionable motives. This is peculiar, coming from one in the highest legislative department of our government, because it is a fixed rule of parliamentary discussion that *acts* and *consequences* are subject to discussion, but not *motives*. Also, like all Eddyites, the Senator separates Eddyism, as he finds it convenient, into its component parts; at one time it is a "religion"; at another it is a system of treating the sick—commercially.

To this letter the Council of the Los Angeles Association sent a long and very courteous reply, stating that, as the Senator had made the statement—and a very definite and positive one—that the treatment he had formerly received from his physicians in California failed to benefit him, it was quite proper to ask him to further state exactly the nature of the ailment, who made the diagnosis and who conducted the treatment. The Council urges that as the Senator gave publicity to a part of the case (the failure of physicians to relieve him) it is but fair and right that he should give publicity to the rest of the case—all of which is merely simple logic.

In discussing the laws governing the requirements fixed for persons who desire to treat the sick or afflicted, the Council further says: "It is in fact altogether inconsistent that less or no knowledge or scientific training should be required of one group of physicians, and higher educational requirements demanded of others." The whole letter is a quiet, dignified discussion of the argument.

Senator Works, in his reply, claims that the Council has abused him and called him a falsifier. He also says "In my speech in the Senate I treated your profession with the utmost fairness and consideration." If you read his speech you will be filled with wonder to know what he could have said that would be unfair and inconsiderate! The Senator further says: "If I have said anything in my speech that is not true it is open to proof before either the House or Senate Committee of Congress." Of course! but how impossible to bring about such an investigation!

If the Senator is correct in making the following statement (and far be it from us to reflect upon his veracity!) it would be a matter of the greatest interest if he would only supply us with a list of the "hundreds":

"Hundreds of your profession have learned that their training and experience has been false and have become worthy and successful Christian Science practitioners." Again we note the dissociation of the elements "religion" and "practice."

The Senator says the physicians who treated him considered his case "From their view, and according to their method of treating disease . . . incurable." That is a very definite statement; and yet he will not give the names of the physicians or the "incurable" nature of his case! But the Senator, for one reason or another, does not give any further information as to the nature of his trouble or those who attended him. He would like to have a Congressional investigation, not an investigation at home.

The Bulletin also contains extracts from a number of publications relating to public health and the attacks upon proposed public health legislation by the "League for Medical Freedom" and others. There are also a couple of letters from ex-Senator Chandler to Senator Works in which he asks Senator Works to be more specific in his information. But Senator Works' only reply is to question the motives of the query; again the most unparliamentary attitude. Mr. Chandler closes his first letter with this pertinent postscript:

"P. S. Is Mrs. Harriet W. Works, C. S., a recorded practitioner at Los Angeles, Cal., 520 Hellman Bldg., your wife?"

But Senator Works makes no reply.

The good that is in Eddyism, the value of suggestion and auto-suggestion (being as old as the human race) will live forever; the absurdities of it will die a natural death. It is not for us to argue or discuss the question; argument would be absolutely profitless. In the long run the average citizen may be depended upon to do pretty nearly the right thing; it is for him to decide whether he wishes this "freedom" to endanger the health and the life of his child or whether he wishes a national department of public health that will insure at least as much consideration for human health as for the health of his cattle, his hogs and his crops. Our profession can place before him known facts; he can then weigh these against theories, dreams, false statements, tainted motives and unsound judgment; the result is certain, though it may come but slowly.

P. M. J.

ORIGINAL ARTICLES

THE EYE IN ITS SEMEIOLOGICAL ASPECT.*

By WM. F. BLAKE, M. D., San Francisco.

(Continued from page 507, December Journal, 1911.)

Tumors of the pons and medulla oblongata we will consider together, since the one region except for surface markings merges insensibly into the other. A lesion of any size situated at the lower level of the pons could easily implicate all the nerve nuclei from motor origin of the fifth above to its sensory origin below, including the nuclear origin of the sixth, seventh, eighth, ninth, tenth and twelfth between. When we consider, too, that all the sensory and motor tracts connecting the cord with the cortex must pass through this crowded area, it is plain that even a small growth will produce a wide diversity of symptoms. In addition to hypasthesias and anesthesias and ataxia and hemiplegia, we may expect paralysis of motor fifth in addition to its sensory loss, paresis of sixth and seventh, deafness, loss of taste from implication of the ninth nerve and paralysis of opposite side of tongue when growth extends low enough to involve the hypoglossal nucleus.

There remains yet to be considered tumors of the pituitary body, but as this particular region is deserving of a much more extended consideration than can be given here, I shall not attempt any discussion of it. Before dismissing the subject, however, I would call your attention to the fact that other eye changes than bitemporal hemianopsia may result from growth here. Cases are on record where a homonymous lateral hemianopsia has been caused by an asymmetrical development of the tumor to one of the other side. And as a passing thought it may be that some of our so-called idiopathic optic atrophies have resulted from a compression of the chiasm from an acute enlargement of the hypophysis. By the recession of the gland to normal size there would disappear the headache and perhaps all constitutional symptoms, only the atrophic nerves remaining to leave us in conjecture as to the original cause.

With the one exception of headache, choked disc is the most common symptom of brain tumor. The tables of various investigators, as Martin, Paton, Gowers and de Schwernitz, show it to be present in eighty to eighty-five per cent of all brain tumor cases. Gowers says the value of optic neuritis as an indication of intracranial tumor is very great; in at least four-fifths of the cases of brain tumor it may be the only unequivocal sign of organic intracranial disease.

While every one agrees that the general significance of choked disc is very great, yet its value as a localizing aid is open to grave question. Sir Victor Horsley stoutly maintains that the amount of papilloedema, the presence or absence of hemorrhage and such secondary changes as hyalin deposits and macula star are of very great localizing importance and that there is a very constant ipsolaterality between the side of tumor situation and the greatest fundus changes. In a paper read before the Toronto Medical Society this past October, Horsley recounts eighteen cases of brain tumor operated in the past year by him, in which he found a marked ipsolaterality of fundus changes in sixteen cases. Mr. Leslie Paton in an analysis of this same series of cases is in absolute disagreement and finds the fundus changes about equal on both sides, if anything with a slight percentage in favor of contralaterality. Cushing and Bordley, in spite of the fact that in 70% of cases studied by them the greatest change in the optic disc was on side homolateral to the tumor, still believe this sign to be misleading and that a careful and day to day observation of the eye grounds will show changes as frequent and as great in the contra as in the homolateral eye. This opinion is supported by de Schwernitz and Frazer.

However, as we are as much interested in the very earliest signs of oncoming choked disc as in its localizing value when present, I will briefly call your attention to some anatomical conditions which are changed very early. The physiological cup is the space left by the arching and diverging fibers as they leave the nerve head. It may be large or small, depending again on the arrangement of nerve fibers. Since the greater proportion of nerve fibers pass over the nasal side of the disc, their increased number demand more space, in consequence the physiological cup is pinched somewhat and to the nasal side is contracted to a rounded apex. With the onset of congestion and edema the change is first seen on the disc at the apex of the cup, the edges of which are rapidly approximated by swelling of nerve fibers and by congestion and overfilling of capillaries and small veins. The cup is changed in three ways. The nasal angle is obliterated, the transverse and vertical diameters of the cup lessened and its white, glistening floor is early changed to a congestive hue by dilatation of small capillaries in its choroidal layer.

Gowers, Horsley, Parsons, Bordley and Vierhoff have all called attention to the earliest swelling of the disc edge and adjacent retina on the upper nasal side and that the last sector of the disc periphery to be involved is the lower temporal quadrant. Parsons and Vierhoff have demonstrated the histological reason for this in the presence of this region of an increased amount of loose connection tissue, forming here a transitional element between the perineurium and the highly organized tissue of the retina.

In the normal disc the higher the nerve head the deeper the cup, under pathological conditions with swelling of nerve head the cup becomes narrower and more shallow. Perhaps the next objective change to be made out is a modification of size and contour of the retinal veins. Often in high hypermetropia we see a tortuosity of mild degree, but always parallel to or in the plane of the retina. The tortuosity incident to congestion and choking of the disc is more pronounced in character and the curves

of veins seen in and out of retina, that is, at right angles to its plane. An explanation of the star-shaped macula figure was first made by Gowers at the International Ophthalmic Society (Edinburgh) in 1894. He drew attention to the localized foldings of the retina that occur in consequence of edema and what he described as the pegging down of the fovea contralis, and suggests that mechanical tension plus degenerative processes in the retina account for the figure. Mr. Gunn speaks as if the white spots are necessarily due to changes in the deeper layers of the retina as in albuminuric retinitis. Sir Victor Horsley, on the contrary, thinks he has conclusively demonstrated, and in this he seems to be in accord with Vierhoff and de Schwernitz, that the degenerative change is in the nerve fiber layer, that it occurs first near the blood vessels and particularly on the nasal half of the disc.

Turning now from the objective to the subjective evidence, we find that an investigation of the perimetric field for form and color as well as increase in vertical diameter of the blind spot offers something of very great importance. To Cushing and Bordley belong the credit of demonstrating the fact that a contraction of the field for form accompanied by a hemianopsia for colors, or, where this is absent, a marked restriction of the field for red and blue, with an almost constant interlacing or inversion of the field for these colors, is perhaps the earliest and one of the most trustworthy signs of increased intracranial tension.

Since increased intracranial tension may be an accompanying phenomenon of other lesions, as concussion, meningitis and infective processes within the ventricles or so situated as to obstruct their outlets, and since it is also frequently present in chronic kidney lesions progressing toward uremia, this sign must be interpreted in the light of the history of the case, of the other signs of tumor, and in the presence or absence of fever and kidney changes. Swansy says the conditions that produce these changes in the form and color fields are those of increased intracranial pressure only less in extent than that necessary to produce the typical choked disc.

Cushing and Bordley have repeatedly demonstrated that when the early indications of this sign have been accepted and where an early decompressive operation has been done, that this contraction of field for form and this distortion of the relation of blue and red, has been quickly replaced by a return to normal relations. De Schwernitz and Halloway have shown that in addition to the change in form and color fields, there is a fairly constant increase in the vertical diameter of the blind spot. A study of the tables published during the past three years by Cushing and Bordley, by de Schwernitz and Holloway and by Leslie Paton show that these early subjective changes, while not constant (few signs of disease anywhere are), yet are present in so very great a majority of cases as to make them of the very greatest value as an indication for early operative treatment.

A PLEA FOR THE EARLIER RADICAL SURGICAL TREATMENT OF GASTRIC ULCER.*

By H. B. A. KUGELER, M. D., San Francisco.

Introduction.

The Bible is the foundation of Christian theology.

Sects are founded on interpretations of the Bible, often twisted to suit the individual interpretation or incorrectly translated from the original.

The first ones to resent the statement that the publications of the Mayo Clinic are the Bible of American Surgery would be the Mayos themselves, no one appreciating more fully than they do the transitional state of modern surgery. Nevertheless, with their enormous material, their able staff of assistants, guided by men of genius, and having an excellent survey of the world's literature at hand, their works are at least for many of us, a sort of confession of faith.

A good sermon consists of a text, with its exposition, the same being fortified by as many quotations as possible from the Bible itself or the writings of the Fathers. The same construction should apply to a good medical paper.

During the past ten days I have learned two things:

1st—That very few readers of papers before this Society comply with the rule that a copy of their paper should be filed in the library of the society.

2nd—That there really are members who do read these papers.

In this way I learned that considerable criticism had been made of my paper on account of its quotations.

As I make no pretense to being a pathologist or a great diagnostician I have consulted the best authorities at my command.

After hearing this criticism I reread very carefully the papers of Kroenlein, Payr and Neudorfer, translating such sentences as I felt covered the ground I wished.

After making a clean copy of the same I found that it corresponded so closely to what I had already written that I retained the original wording.

Kroenlein in 1906 draws elaborate conclusions from a series of 101 patients that had been under medical treatment for a period varying from five to forty-five years. Payr only three years later, with a series of more recent cases, takes a more radical view. Neudorfer's paper though based on only eight cases was listened to and discussed with great earnestness at the 1911 meeting of the German Surgical Congress. Careful reading of the same would make one believe that he had consulted the same authorities that I have. Furthermore, I looked up some of our recent American papers on this subject and while the wording was different, the sequence and data so closely resembled what I have quoted that the source was unmistakable. In fact, the wording was occasionally so arranged as to give an entirely differ-

* Read before the General Section of the San Francisco County Medical Society, Nov. 14th, 1911.

ent impression from what the original intended.

I will conclude these prefatory remarks by saying that if I have committed a crime it has been that I have had the honesty and decency to put quotation marks around the paragraphs that I have quoted instead of taking liberties with the same. My idea is not so much to teach as to call attention to the general neglect of the teachings of those whose experience should guide us.

It cannot be too often repeated, line upon line, and precept upon precept, until it passes into the currency of a proverb, "The cure of cancer of the stomach lies in the early surgical treatment of ulcer." This paraphrase of the words of the immortal Burke is my excuse for taking a few moments of the time of this society.

I cannot present a long array of statistics as I have neither a university clinic nor a hospital service; however, during the past three or four years I have had quite a series of cases of carcinoma of the stomach. As I went over the histories my attention was called to the fact that in case after case the symptoms of ulcer extending over months and years seemed startlingly clear. Still the patients had wandered from one physician to another, dieted and drugged, until they gradually drifted into the condition of inoperable carcinoma.

Particularly atrocious was the case of a young woman of twenty-six years, who came to me in September, 1910. For two years she had been seeking relief from her pain and increasing exhaustion. At operation the pyloric end and lesser curvature of the stomach were found indurated and adherent. A posterior no-loop gastroenterostomy was all that could be done for her. One of the lymphnodes was removed and found to be carcinomatous in the Ophuls' Laboratory of Stanford University.

Then followed the usual harrowing story, unusually prolonged in this case: for five months marked relief and increase in weight; then return of pain; distress after food and a rapidly growing tumor. The end came ten months after operation.

When a surgeon sees case after case like this, he must ask himself, "Why is it?" Even the pathologists are aroused. One of my friends in the medical department of the University of California came to me the other day and wanted to know why the surgeons do not take the treatment of ulcer of the stomach away from the internists, who claim they cure the ulcer; and then the patient returns with a carcinoma. It is certainly interesting to learn that the pathologists are awakening to this fact. During the past twenty-five years, aside from the direct benefit that has come to suffering humanity from modern surgery, another very important result has been the light that has been thrown upon pathology and physiology. It has been clearly demonstrated that there is a marked distinction between the pathology of the living and the pathology of the dead.

A few weeks ago I received from Rochester, Minn., a package of reprints, among them two by Wm. J. Mayo entitled "Some Observations on the Disorders of the Stomach and Duodenum with Special Reference to Ulcers" (*Boston Med. and Surg. Jour.*, Vol. LXIX, No. 14, pp. 477-482). The other, "Diseases of the Stomach and Duodenum from a Surgical Standpoint" (*St. Paul Med. Jour.*, Jan., 1911).

A number of the points that I had made in the preparation of this paper were stated so much more clearly and authoritatively that I have rewritten my paper and taken the liberty of quoting certain passages from these reprints, for which I wish to acknowledge my indebtedness.

One of the papers begins, "Few people with chronic disease die from the malady from which they suffered during life." This bears out the previous remarks concerning the difference between living and dead pathology.

"Twenty-five years ago we were taught that simple peptic ulcer was a disease of the stomach more common in women and that it was usually multiple. It was supposed that the duodenum was very rarely affected. Later investigation has shown that the ulcers referred to were a form of acute ulcer and that they were especially frequent in the overworked, underfed and badly nourished female. Modern social conditions have, however, changed gradually for the better and this type of acute ulcer with a high percentage of mortality so familiar to the older pathologists, is now rarely seen."

"Acute ulcers are usually toxic and the patient either dies or there is recurrence within two or three weeks. They are often multiple, sometimes with a large number of perforations at one time. Borden demonstrated that acute ulcers of this type could be produced experimentally by making an extract of the stomach scrapings of a normal guinea pig's stomach and injecting it into the normal rabbit. In a very beautiful piece of work he showed that these ulcers were due to self digestion; the gastro toxic extract had in some way taken away from the stomach of the second animal the ability to protect itself against auto-digestion. He could prevent this action by keeping an alkaline solution in sufficient quantity in the stomach to neutralize the gastric juice."

"Turk (Int. Med. Congress, Budapest, 1909) showed that by feeding animals a large quantity of filth and colon bacteria he could produce multiple acute ulcers in the experimented animals. In this manner we can explain the acute multiple ulcers of the chlorotic female and the hemorrhagic erosions, which cause severe hemorrhage in cirrhosis of the liver and some blood diseases, but never experimentally nor clinically have these acute ulcers been found to be responsible for the chronic, calloused ulcer of the stomach and duodenum."

"The whole question of calloused, chronic ulcer must be reconsidered. Up to the present time the statistics of John Brinton, which were compiled in the early sixties, and those of Welsh, compiled in 1885, have been accepted as definitely establishing certain facts. The work done by these two men is a splendid example of pathological research of their time. The actual pathological examinations upon which these statistics were based, however, were not made by these eminent authorities but were merely compiled by them. Welch's statistics covered the findings from the autopsy material from ten large German clinics, during a still earlier pe-

riod some years prior to the publication of the paper. These statistics represented what was well known at that time but by no stretch of the imagination can we consider them as representing the knowledge of to-day any more than we can settle other mooted questions in medical progress by data accumulated twenty-five or sixty years ago."

For purposes of comparison, Mayo takes one thousand cases operated upon at St. Mary's Hospital for gastric and duodenal ulcer. Of this 74½% were males and 25½% were females. Kroenlein had 57.6% males, 42.4% females. Since June 1st, 1906, 201 cases were gastric and 401 duodenal, and 19 had one or more ulcers of both the stomach and duodenum. More than 90% of ulcers of the stomach are situated along the lesser curvature. The ulcer is sometimes more extensive on the posterior wall; less often on the anterior. The induration often extends from the ulcer downward upon the anterior and posterior walls like saddle bags and therefore is termed "saddle ulcer."

"Ulcers not along the lesser curvature are more frequent on the posterior than the anterior wall of the stomach. While the induration may be very considerable in extent, the rule is that the actual ulcer is not larger than the end of a slate pencil to that of a nickel, averaging about the size of the end of a lead pencil. Most ulcers which are larger than a silver twenty-five cent piece are undergoing malignant degeneration."

I show you here a typical specimen of this condition; also a plaster cast of the same prepared by my friend, Dr. Lee, of the Pathological Department of the University of California.

"The diagnosis of gastric or duodenal ulcers is usually not difficult and the differential diagnosis between a gastric and duodenal ulcer can usually be established, but it cannot always be done nor is it essential that it should be.

"In the early stages of gastric and duodenal ulcer hyperacidity and hypersecretion are prominent features and the pain is usually in the pit of the stomach. In some cases of duodenal ulcer the pain passes to the right, and in some gastric ulcers to the left. The location of the pain, however, is often misleading in this respect. Hyperacidity is often not as well marked in gastric ulcer as in duodenal, and generally speaking, in both gastric and duodenal ulcers hypersecretion is more persistent than hyperacidity. The pain in duodenal and gastric ulcers in the vicinity of the pylorus usually comes on three or four hours after meals. In gastric ulcers of the body of the stomach the pain comes on earlier following the meal. And while duodenal and antral ulcers are almost regularly relieved by taking food, in ulcers of the body of the stomach food sometimes gives rise to pain. The belching up of sour fluids from the empty sour stomach has a very deleterious effect upon the teeth and often these patients will have the incisor teeth of the upper jaw dissolved away nearly to the gum."

"Hunger-pain and food-relief are very typical of ulcer. The patient who goes to bed at night with a glass of milk and a cookie, or baking soda, because he expects to wake up in the night with a peculiar gnawing pain in the stomach; sometimes raising up a mouthful of bitter, sour, burning fluid, will almost regularly be found to have ulcer—and usually ulcer of the duodenum. It is curious to note in some cases the regularity with which the pain appears in the night. For months at a time it comes on at almost identically the same hour."

As to hemorrhage: not over 30% of Mayo's cases gave a clear history of hemorrhage although by asking leading questions regarding black stools, etc., nearly 70% of histories of hemorrhage can be procured. Of all the prominent signs and symptoms of ulcer hemorrhage is the least valuable. As to occult blood: if found, it is merely up to us to guess where it came from. If it is corroborated by other findings of substantial nature it has value, but of itself it means little.

"It is always advisable to examine the gross specimen brought up by the stomach tube from the fasting stomach. The yellowish, sour, pungent fluids, the result of hypersecretion and hyperacidity, are in marked contrast to the dirty, sickish, coffee ground material so often found in cancer."

"Laboratory diagnoses based upon analysis of the stomach contents are valuable but they are not the controlling factors in the diagnosis and must be corroborated by other signs and symptoms."

"In the later stages of the disease obstruction supervenes and the finding of food remnants eight and twelve hours after meals, or the habitual use of the stomach tube to remove these undigested articles is not only most important in diagnosis but furnishes a surgical indication which should not be ignored. If the patient is told to take with his evening meal some soup containing half cooked rice and a penny's worth of raisins, remnants of this food will be found in the stomach the next morning if obstruction exists."

"Gastric and duodenal ulcers may exist for years. The disease usually begins in the young adult who develops a history of stomach trouble, marked by bitter, sour, acid, belching and regurgitation coming on from one to three hours after meals and relieved by food. With or without treatment the symptoms will abate and in the early history will disappear for months or years at a time, leading to the delusion that the ulcer is cured. These spells recur at closer and closer intervals until in the later stages obstruction supervenes, and as the acids then diminish and blood is sometimes present, the patient is thought to have cancer."

"Mistakes in diagnosis are more often the result of the lack of examination than the lack of knowledge. Ninety per cent. of supposed diseases of the stomach are not entities but rather groups of symptoms masquerading as diseases and named accordingly. Gastroptosis, gastric neurosis, atonic dilatation give rise to much gastric distress. However, the stomach is not the offender but rather are the symptoms due to an unstable nervous system and to congenital physical defects. Some of these poor patients had gastro jejunostomy and other stomach operations performed for supposititious ulcers, much to the discontent of the patient, the physician and the surgeon; and in the records of these cases "failure of operation to cure the ulcer" was put down, when it

should have been recorded "unnecessary surgical interference."

Patients come with the story of pain in the stomach, headache and vomiting, and the stomach subjected to all refinements of examination and treatment. Many of these are due to cardiac and renal disease. Gastric symptoms sometimes antedate the true signs of pulmonary tuberculosis; arteriosclerosis is commonly attended by gastric disturbances; pernicious anemia has frequently been mistaken for carcinoma of the stomach. Patients with brain tumors have gone through the same story. Then again in the abdominal cavity, in appendicitis—acute or chronic—hernia, gallstones, marked disturbances of the stomach are sometimes the chief or only symptoms of the disease. The patients go on for years complaining and receiving treatment for indigestion and dyspepsia.

As to the treatment: For many years we were led by the teachings of Leube and Lenhartz, who cured gastric ulcers, and many still believe that such is the case. But these treatments were instituted at a time preceding the modern surgical investigation of stomach conditions. If you will look at that specimen and consider that it is located at a point that is constantly exposed to the impact of the food as it tries to escape from the pylorus, it is impossible to believe that medicine ever could cure such a condition.

As I said before, the number of cases of neglected gastric ulcers that have come under my personal observation during the past few years have induced me to read this paper. It is simply a repetition of what has been said again and again but it is evident that we do not give heed to what we read and the only way to impress the majority of the people is by addressing them personally. In looking over the *Index Medicus* I find that during the last three years some seventy papers have been written in all the various known languages on the subject of surgical treatment and still little heed is being given.

Five years ago when I visited the Mayo Clinic, Wm. J. Mayo was accustomed to say, "We operate after nine complete and permanent medical cures." On my last visit about a year ago I found that they had cut down this period and operated much earlier.

Wilson and McCarthy found that 71% of over 300 resections of the stomach for cancer showed that the cancer began in ulcer. Keen and Bloodgood state that no case of carcinoma of the skin has been reported which did not begin in some pre-existing lesion, e. g. moles, warts, heat or sun irritation, syphilitic or tuberculous lesions, or the result of chemicals, traumatisms, etc. We are just beginning to find out that carcinoma of the internal epithelial surfaces of the body presents the same condition of pre-cancerous lesion, of which ulcer of the stomach is one.

For some years it was believed that gastroenterostomy was the proper treatment for gastric ulcer. This, however, is not sufficient and should only be used where the adhesions are so dense that a resection or excision of the ulcer cannot be performed. A number of these cases were reported a few years ago where large masses were found apparently macroscopically malignant which disappeared and the patients were apparently cured. I can report the end of one such case that I had seven and one-half years ago. The man had been treated medically for five years, was extremely emaciated, with pain and coffee ground vomiting. For seven years after his gastroenterostomy he was perfectly well, stout and rosy. Then he returned with pain and examination revealed inoperable carcinoma. Kroenlein, who was a staunch advocate of gastroenterostomy, reports 3% subsequent deaths from carcinoma. He very naively says, "Where there is a mucous membrane scar, there may occasionally arise a carcinoma. This result has nothing to do with the operative treatment."

There is one warning of the Mayos that I wish to emphasize from personal experience, and that is, no matter how clear the symptoms of ulcer may be, when the abdomen is opened and no ulcer can be palpated, under no circumstances should a gastroenterostomy be done. Gastroenterostomy is an operation reserved solely for cases where obstruction of the pylorus exists.

My earnest plea is for an earlier recognition of ulcers of the stomach before they reach a condition where only a gastroenterostomy can be done for their relief. I say relief advisedly, for I do not believe that it means a cure. Give the patient one careful, thorough medical course; if the symptoms do not subside or a recrudescence occurs the case is a surgical one. Exception should here be made to duodenal ulcers, which according to the Mayo's statistics rarely become malignant and in these a gastroenterostomy may suffice; however, the experience of v. Eiselsberg, Henle and others (Proceedings of the German Surgical Soc., 1911), shows that even here a cure can only be achieved if at the same time the duodenum is closed.

Rydygier as early as 1882 recommended resection for ulcer. At present there is still a great diversity of opinion as to whether resection should be done or excision of the ulcer with gastroenterostomy and occlusion of the duodenum. The operation must depend on the conditions found in the individual case.

As a fitting commentary on what has been said, listen to this wail of the internists as uttered by Wm. J. Mallory, Instructor in Medicine in the George Washington University, Washington, D. C., and published in the *Journal of the American Medical Association,* November 4th, 1911:

"The results obtained by medical treatment vary greatly in different observers. Their value is impaired by the fact that all are not observed for the same length of time and there are a number of cases in certain series unaccounted for, the termination of which is unknown. The tables of results of treatment by various men, the figures for which were collected from various sources, show how widely results of medical treatment differ:

TABLE OF RESULTS OF TREATMENT.

Statistics by--	Pa-tients.	Cured.	Im-proved.	Re-lapsed.	Died.
	No.	%	%	%	%
Sears	183	22.9	59.0	8.0	7.0
Friendenwald	287	66.0	28.0	....	1.0
Bulstrode	500	....	82.0	40.0	....
Russel	47	42.0	44.7	....	....
Schultze	291	89.0	....	....	....
Subsequently	157	53.0	23.0	15.4	7.0
Lenhartz	....	....	....	....	2.3
V. Leube	....	90.0	6.0	....	2.5
Warren	....	34.0	....	43.0	10.0

Pyloric stenosis, 10 per cent; carcinomata, 3 per cent.

The mortality is variously estimated (in percentages) as follows:

Musser	8
Regal	from 8 to 10
Lebert	from 8 to 10
Welch	15
Leube	25
Debove and Reynolds	50

"These statistics are uniform in one respect, they indicate that at present the result of medical treatment of ulcer of the stomach is decidedly unsatisfactory. Until the pathogenesis of gastric ulcer is made clear and the treatment based on the etiology is possible, our principal hope for better results must rest on earlier diagnosis. This will be possible when we cease to depend on subjective symptoms for diagnosis and learn to use more universally the tests for occult blood in the feces."

From what has been previously said the diagnosis of gastric ulcer is not as difficult as has been claimed unless we wait for hemorrhage and a gastric analysis, which agrees with our preconceived notion of what it should show.

As to the mortality—compare these statistics with the results of the Mayo Clinic, where since June, 1906, 621 authentic cases of gastric and duodenal ulcer have been operated upon, with an operative mortality of 2.4%. These mortality figures include all the cases operated upon who died in the hospital without regard to the cause of death or length of time after operation.

Discussion.

Dr. W. C. Alvarez: I have listened with great pleasure to Dr. Kugeler's interesting paper. Statistics, generally unreliable, are particularly fallacious in this question of the treatment of gastric ulcer. The cases are rarely followed up long enough to say that they remain cured, and besides we must take into account the condition of the patient at the time of operation, the extent and character of the operation and the thoroughness of the after-treatment, if any. With Dr. Schmoll, I have had the opportunity of studying a patient who was operated upon by the Mayos about four years ago. They excised his ulcer completely and in two weeks sent him home. In answer to his questions as to diet, they told him that he was a well man and could eat what he pleased. He remained well for seven months and then, without any premonitory symptoms of stomach trouble, had a large hemorrhage which laid him pretty low. Every six months since he has had hemorrhages, although in between he has no symptoms of ulcer and he lives on a carefully chosen diet. There is a case that would probably be reported as a brilliant result of operative treatment. I think Dr. Kugeler should have called more attention to this contempt for after-treatment so frequently displayed by the surgeon. The man who has had his ulcer cut out is still an ulcer patient. He should be put on a Lenhartz diet after the operation, and this should be added to in the usual way. We caution our patients to be careful for several years. Another mistake that is often made is to starve the patient by keeping him on the Lenhartz diet too long. Appropriate food should be added as quickly as possible and the patient should gain in weight. Given a thin, anemic patient and the neglect of this precaution may mean the difference between life and death if the surgeon has to be called in later for hemorrhage, or as a last resort. Instead of squabbling as to who shall have the patient, the surgeon and the physician might get better results if they helped each other more in these cases.

A valuable point made by Dr. Kugeler is that there is little to be hoped from gastro-enterostomy unless there is pyloric obstruction. This must be determined by washing the stomach six and twelve hours after a meal. When food can be found in the stomach after twelve hours, there is generally some organic obstruction.

Hemorrhage as a diagnostic sign of ulcer has been overrated in the past. In our experience, most cases of gastric ulcer may be recognized before there is any history of hematemesis, and its presence is not at all necessary to the diagnosis. The fact is that many of the worst cases of bleeding that we have had were found at operation to have no visible lesion of the stomach or any abdominal organ. I remember one girl who nearly bled to death on several occasions. She was opened by Dr. Stillman; nothing was found, and we heard from her several months later saying that she was strong and well for the first time in her life. A few months later we heard that she had had another big hemorrhage. These cases could be multiplied indefinitely. Moynihan explains many of them as due to appendicitis, but we have seen such symptoms in several people who had already lost their appendices.

The test for occult blood is of value only when carefully controlled. I use the benzidin test first, and if this is negative there can hardly be any bleeding. If the benzidin test is positive, I repeat with the more conservative guaiac test. If this is positive also, the patient is put on a meat-free diet for a few days. If there is still a marked reaction, the patient is bleeding somewhere. As with hematemesis, this finding is of importance only in conjunction with the history and other evidence in the case. No one thing is absolutely pathognomonic.

While accentuating the fact that many cases of carcinoma originate in the floor of an old ulcer, we must not lose sight of the fact that the most careful history may fail to show any hint of such an ulcer in many of our cancer cases. In fact, the most suspicious point may be that a man who has enjoyed a powerful digestion for fifty years or more suddenly shows signs of pyloric obstruction.

Dr. H. A. L. Ryfkogel: I would like to ask an explanation of the statement that has been made that gastroenterostomy is never of any use except in ulcer of the pylorus. I can illustrate my meaning best by citing a case and showing a specimen. I would like to disagree slightly with the statement that gastroenterostomy is valueless except when the ulcer is situated at the pylorus, because in many cases of ulcer near the cardia definite relief has followed this operation. It is true that probably in a

majority of cases such improvement is not seen, but in a certain type of cases in which the ulcer is surrounded by an inflammatory tumor mass and adhesions have formed in the lesser peritoneal sac or surrounding structures, and the patient's condition is such that he can stand no extensive operative procedure, a gastroenterostomy should be performed on account of the great possibility of its doing much good. This benefit may be in part due to the lessened acidity that sometimes, but not always, follows gastroenterostomy and in part may be due to an increased drainage that occurs in the new stoma. It is quite true that Cannon and Murphy have shown that in the normal stomach the peristaltic waves force the food past the new opening to the pylorus, but the stomach of which we speak is not normal and peristalsis is greatly interfered with by adhesions. The following case will illustrate the point that I have made: A man aged 32 had been treated for a month by the usual dietetic and medicinal treatment without benefit, and gradually grew worse. He was referred to me for operation and I found a saddle ulcer punched out and callous in type and densely adherent to the liver and posterior wall of the lesser peritoneal cavity. The patient's hemoglobin was 40, his general condition bad, and the anesthetist said it would be impossible to do any extensive operation. A gastroenterostomy was done. The patient was again put on an appropriate treatment for ulcer and he now made such rapid improvement that in a month it was easily possible to successfully remove the ulcer. At the end of the year the patient was still apparently well.

Dr. Herbert W. Allen: The question of the relief of gastric ulcer through medical and surgical treatment has been fought over very extensively for a number of years, and the fact that there is still so much difference of opinion would indicate that neither treatment is as yet ideal. There is no question that a large majority of ulcer patients can be relieved medically, not necessarily cured, but they can be relieved for long periods. There is also no question of the very brilliant results that surgical treatment shows, but as Dr. Alvarez has remarked, some of these surgical cases if followed for a sufficient length of time will have trouble; whether this is generally due to poor post-operative treatment or not I am not prepared to say. It appears to me that Dr. Kugeler has stated the matter conservatively. It is fair to give most ulcer cases at least one satisfactory medical treatment. The question of the patient's occupation has to be considered when treatment is to be decided upon. In the case of working men or women who are dependent on day labor it seems to me a saving of time to treat them surgically from the start. Well-to-do patients who can afford to give up the necessary time can be treated much more conservatively.

Dr. H. E. Castle: It would appear from what has been said this evening there is nothing to differentiate in the diagnosis of gastric ulcers other than ulcers of the duodenum. This is by no means true. Especially do we find the most perplexing conditions in perforated gastric or duodenal ulcers and ruptured appendices. These lesions often given symptoms identical with each other and also very similar to lesions of the gall bladder. One of my recent cases vividly illustrates the point at issue. I could not make the diagnosis and was rather firm in the belief the lesion was one of gall bladder origin. I called in one of our leading diagnosticians, whose judgment we all prize highly. After examining the case very thoroughly he confirmed my tentative diagnosis. At operation the incision was made according to Mayo-Robson over the gall bladder, and at once a perforated duodenal ulcer with a localized peritonitis was discovered. Incidentally, the treatment consisted of a purse-string suture around the ulcer; this was reinforced by a continuous suture and a Senn's omental graft placed over the line of suture. As the citratricial tissue had practically closed the pyloric orifice it was not necessary to do it by operation. A short-loop posteriogastrojejunostomy completed the operation.

While working in New York two years ago I was interested in the diagnostic skill of Eibhirn. He demonstrated before the Academy of Medicine one night a very unique contrivance consisting of a membranous stomach, which was inflatable. In collapsed condition it is introduced into the patient's stomach and then inflated, left there for a short time and then the air allowed to escape from the pseudo-stomach; it is then removed and reinflated. The site that is over the ulcer will be stained with blood. For diagnosing duodenal ulcers the patient swallows a smooth metallic ball to which is attached a cotton string, the free end of the string is held by the hand of the physician. The ball travels into the duodenum where it is arrested by the string. On its withdrawal a blood stain will be discerned on the string at its point of contact with the ulcer.

Dr. H. B. A. Kugeler: I have not much to add to what I stated before. The question of medical and surgical treatment of ulcer of the stomach is dependent at the present time on the fact that we do not quite understand the pathology of the condition. but we do know that more can be done for the patient if he comes to surgical treatment sooner. Gastroenterostomy relieves and makes the patient comfortable. If these cases were followed carefully for longer time we would find that more have developed carcinoma than we know at the present time. The only way to do is to keep calling attention to this condition, just as I have done this evening, so as to keep it fresh in the mind of every one.

REPORT OF A CASE OF POLYCYTHEMIA.*

By WILLIAM C. VOORSANGER, M. D., San Francisco

Polycythemia was first described in 1892 by Rendu and Widal with two salient features.

1. Chronic cyanosis due to polycythemia.
2. Splenic enlargement.

These authors attributed this symptom complex to a splenic tuberculosis. Vaquez in 1899, Turk in 1902 and Osler in 1903 called general attention to the above syndrome, demonstrating that it was not due to splenic tuberculosis but to a primary hyperplasia of the erythroblastic bone marrow.

Patients with this condition usually seek medical advice for abnormal color and condition of skin and mucous membrane, for symptoms of cerebral congestion such as headache and vertigo, and for weakness.

The spleen is enlarged in 85% of all cases. In about one-half of the cases reported (about fifty) red blood cells range 10 M.—13 M., averaging 8 M. Hemoglobin 120 to 200%—leukocytes usually increased. Polynuclear neutrophiles range from 75 to 92% with proportionate decrease in per cent. of lymphocytes.

Miss L. S., age 19 years, entered Mt. Zion Hospital, October 9, 1911, with a complaint of pain in cardiac region for past two years, cyanosis for about one year and weakness for the past six months.

Family history showed mother living, age 58; father, age 69; two sisters alive and well—negative to circulatory or respiratory disease.

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*Read before the Combined meeting of the Surgical and Medical Sections of the San Francisco County Medical Society, Nov. 7, 1911.

Her childhood was free from all diseases except measles, pertussis and chicken-pox, but she states that she was never robust. Her menses began at 15 years, being regular every four weeks, five days duration and no pains. Her previous history shows that as a child she was subject to nose bleed, but aside from this has had no disease which could have a bearing upon the present illness, which she states began about two years ago when she noticed that upon exertion she would have pain in the cardiac region. She also noticed difficulty in breathing, which has gradually become worse. At this time she also noticed attacks of vertigo. The symptoms progressing, she ceased her work as stenographer one year ago and for the first time she noticed the blueness of her lips and finger tips, the weakness following upon this, she consulted a physician.

Appetite fair, bowels more or less constipated.

Status: Well-nourished girl, cyanosis of skin, lips and mucous membrane marked. No disturbance in course of cerebral nerves, no glandular enlargements.

Lungs negative.

Heart borders upper, third rib. Right, slightly beyond mid sternum. Left, nipple line.

Apex fifth inter-space mammary line. Tones, pure.

Abdomen soft, liver and spleen not enalrged.

Reflexes. Patella and plantar exaggerated.

Pressure along course of intercostal nerve fifth space painful.

Examination of backgrounds of eyes negative.

Urine examination, color amber, specific gravity 1015, acid, no albumen, no sugar, no blood.

Blood examination—(Several were made, the last only is quoted).

R. B. C.	7,920,000
W. B. C.	8,400
Haemoglobin	140%
Coagulability	3½ min.
Polymorphin. Neutrophiles	71%
Lymphocytes	23%
Large mononuclears	6%
Eosinophiles	0

Examination of feces—negative.

Examination of sputum—negative.

Van Pirquet reaction negative (congestion of both marks was quite intense, due to patient's general condition).

X-Ray examination. Two pictures, one front view, one taken diagonally through chest, shows heart considerably enlarged, particularly to the right.

The diagnosis of the case is unquestionably polycythemia with enlarged heart, the latter due to the former rather than vice versa. Cardiac and pulmonary disease had to be excluded in this case, also local pressure, the latter being done by taking blood from the ear and from the toe. Mediastinal disease was excluded by X-Ray examination.

The prognosis is bad as recovery has never been reported in a case of polycythemia, the average course of the disease being six to eight years.

Treatment is expectant, bleeding having been tried but with little success.

Discussion.

Dr. Milton Abrahamson: I feel fortunate in having seen this case with Dr. Voorsanger, as true polycythemia is not only very rare but extremely interesting from the standpoint of differential diagnosis. The differential diagnosis between true polycythemia (erythrocytosis megalosplenica) and local polycythemia is sometimes very difficult. The clinical findings of a case of local polycythemia which I saw in my service at the German Hospital will serve to illustrate this point. A man of thirty came to the hospital complaining of shortness of breath and an intense cyanosis in the upper half of the trunk. A glimpse at the man suggested the diagnosis of true polycythemia and a thorough physical examination failed to disclose any cause which would explain his condition. The blood examination taken from the ear showed a red count of 10,000,000; blood taken from the toe showed only 5,000,000. The blood findings made us anxious to carry our investigations a little further. X-Rays were taken of the chest, which showed a mediastinal tumor, which proved at autopsy to be a sarcoma pressing on the vena cava. It was from the standpoint of differential diagnosis that the case under discussion interested me most, and in order not to overlook any local condition in the chest, X-Ray pictures were taken both austero-posteriorly and laterally. Furthermore, blood counts were made from the ear, the finger and the toe. The ear gave on November 5th, 1911, 7,000,000; the finger 10,000,000, and the toe 6,000,000, while the hemoglobin ranged between 120-140. Many blood counts were made on different days, but they did not show much variation from the ones I have just quoted. In looking over the literature it was interesting to come across a case reported by Brill as having been cured by appendectomy. This patient had more or less appendiceal symptoms in addition to a well marked polycythemia. This patient was operated on and a week later the blood findings were perfectly normal. As there was no further report given of the case I should be inclined to consider the apparent cure more as one of the remissions which are part of the disease, in view of the fact that these remissions have been known to last as long as eight months.

Dr. Henry J. Kreutzmann: I would like to ask Dr. Voorsanger if there were examinations of blood made during the menstrual period.

Dr. H. D'Arcy Power: I would like to ask a few questions. It is to be remembered that the most interesting thing about polycythemia is its pathogenesis. Is it due to over-production of red cells or non-removal of the used-up erythrocytes? Is the cyanosis the result of mechanical obstruction of the pulmonary capillaries or the result of modification in the chemistry of the hemoglobin? Therefore, I would like to ask whether the specific gravity of the plasma has been noted in the coagulation time and whether any spectroscopic examination of the hemoglobin carried out. We must do more than make blood counts if the nature of the disease is to be solved.

Dr. W. C. Voorsanger: Answering Dr. Kreutzmann, as far as I know this young lady has never had any particular trouble during her menses; I do not remember making any blood counts at this period because pain was never complained of. The intense congestion in this case was demonstrated by a Van Pirquet reaction which, though negative, caused a considerable area of redness around both marks. Answering Dr. Power, I will say that the coagulability time of the blood was three and one-half minutes. Neither the specific gravity of the blood nor a spectroscopic examination was made. As far as the pathogenesis of the condition is concerned, little is known, as but three autopsies are recorded.

EXTRAORDINARY TEMPERATURES.*

By MILTON B. LENNON, M. D., San Francisco.

Temperatures above 112° F. may well be called extraordinary, and the rarity with which they are met is sufficient reason for my reporting the following case.

On Sept. 29th I saw, with Dr. Thos. E. Shumate, a young married lady who had a steadily rising temperature since the preceding Monday. Since no pathological changes could be ascertained on physical examination, except a slight systolic murmur at the base of the heart, the surmise of hysteria seemed a logical conclusion. The doctor informed me that he had curetted the patient on Sept. 10th because of bleeding following a miscarriage. The abortive outcome of her pregnancy was a source of chagrin and disappointment to the patient and she took it deeply to heart. All went well until the Monday before I saw her, when noticing a slight tinge of blood on the bed sheets, she became greatly agitated, restless and sleepless, and from that time until the end of the week refused all food save asparagus tips for which she evinced a marked predilection. My examination of the patient agreed with that of Dr. Shumate. I was loath to conclude that hysteria alone was present; however, that the patient was hysterical was plain from her demeanor, her childish, petulant talk, her having a doll on her arm, and perhaps her unconcern about her temperature, which normally she would have appreciated since she had been a nurse. Her skin was cool and I doubted the thermometer; her pulse was but 80. A rectal temperature was taken and it measured 105° F. I suggested quiet and warm baths. The first bath resulted in her pulse advancing to 130 and great alarm on the part of the nurse. Steadily rising, the temperature reached 107° F. by 8 o'clock in the evening and at midnight measured 109° F. The next morning further consultation was had. Dr. William Watt Kerr examined the patient and found her heart in a better condition than it had been in March last. Neither Dr. John Gallwey nor Dr. John Graves nor Dr. Alden could find any further physical change to account for the temperature. I was asked to take the patient in charge. I had no great expectations from any antipyretic measure. The patient was brought to the St. Francis Hospital, a new nurse gotten and solitude as far as possible ordered. Since the skin was cool despite the high registrations of the thermometer, an electric pad was put on the abdomen and ice irrigations given. The temperature advanced to 111° F. An ice bath given in the afternoon resulted, or better said, was followed by a drop of 2° F. In the evening a sedative and a second ice bath were given and in the course of fifty minutes there was a drop of 13° F. without the least sign of shock. During the night the patient rested well, but at 6 a. m. the following morning 110° F. were recorded and by 9 o'clock another degree had been added. With the remembrance of what had followed the night before, a second sedative and bath were given and the nurses complained of the frigidity of the water; twenty minutes later 114° F. were recorded. During the greater part of the day the temperature was above 112° F.; during the night it dropped a little, but on Monday, October 2d, it was again at 112° F.

The patient was moved to another room, one cooler, quieter and more commodious than the one she had been in. She thought she had been brought from the operating room where the currettment had been done three weeks before, and had lost all memory of the intervening time. When I called at noon she failed to recognize me, and wondered who I was. She talked clearly, was hungry, but still registered 107° F. By 5 o'clock her temperature was normal. Except at the time of the warm bath her pulse never advanced above 90 beats per minute. Needless to say we all doubted the registrations of the thermometer, but many were used by many persons. Measurements were taken in the axilla, rectum and mouth, singly and simultaneously, and coincided. We regretted that the temperature of the urine had not been taken. This omission was compensated for shortly after the patient went home, when her temperature went skyward again and this time to 115° F. When her temperature by rectum was 105.4° F., the urine was 106° F., and when the rectal measurement was 115° the urine was the same. The patient is now well.

This perplexing case teaches at least three lessons. Firstly, patients without toxemia may tolerate great temperature. Secondly, the pulse rate is not dependent upon the temperature. Thirdly, hysterical temperatures are not influenced by the usual hydrotherapeutic measures which are so efficient in toxic fevers.

Discussion.

Dr. Clarence Quinan: Through the courtesy of Dr. A. A. O'Neill, ship surgeon on the transport Peru, I had an opportunity in 1908, whilst en route to Manila with the second military expedition, to study a remarkable case of terminal hyperpyrexia. The patient was a member of the crew, a stoker, I believe, and he was obviously in a dying condition. His temperature, taken with a certified Hicks thermometer, a few minutes before he expired, was 110¾°. At autopsy we found a remarkable state of affairs. It was a typical case of von Recklinghausen's disease. The body was covered with a multitude of neurofibromata of every size. Upon removing the skull cap an extensive leptomeningitis was discovered. It was evident that the infecting organism had gained access to the brain coverings by the mastoid route, for the inner table in that area was covered with exostoses. This seems a favorable opportunity to put on record a case of high temperature, although, obviously, in this case the disturbance was entirely unlike that reported by Dr. Lennon.

* Read before Combined Meeting of Medical and Surgical Sections of the San Francisco County Medical Society, November 7, 1911.

ANALYSIS OF TREATMENT OF SIXTY-TWO CASES OF SYPHILIS WITH SALVARSAN.*

By LOUIS GROSS, M. D., and WALTER S. JOHNSON, M. D., San Francisco.

When salvarsan was ushered into syphilitic therapeutics, it was heralded as a great cure-all, assuming a responsibility no other drug ever had to contend with. The fact that it has withstood for almost a year all onslaughts, proclaims it as a wonderful preparation.

In this series of sixty-two cases we have aimed to place our material before you in a clear and concise manner. We have controlled our cases with Wassermann tests and in over half of the cases with Noguchi also.

Unless our cases presented an absolutely clear picture of lues we have had our tests made previous to the administration of an injection. We regret the disappearance of some of our cases after injection, yet these are disadvantages with which all physicians have to contend.

You will see by the tabulation that salvarsan was given 117 times, 108 of which were by the intravenous route, and 9 by the intramuscular method.

0.6 was given 102 times.
0.5 was given 9 times.
0.4 was given 5 times.
0.02 was given 1 time.

Of the 62 cases, 51 were males and 11 females.

TABLE NO. 1.

The 117 injections were given as follows:

Injections per case.	Males.	Females.	Total No. patients.	Total No. injections.
1	23	8	31	31
2	13	1	14	28
3	11	2	13	39
4	3	0	3	12
7	1	0	1	7
	52	11	62	117

The following shows age of patients:

1	4½			mos.
1	15	to	20	yrs.
12	20	to	25	yrs.
13	25	to	30	yrs.
15	30	to	35	yrs.
9	35	to	40	yrs.
9	40	to	45	yrs.
1	45	to	50	yrs.
1	over		50	yrs.

The age of the syphilis follows:

1880	1 case	1906	7 cases
1895	1 case	1907	3 cases
1899	3 cases	1908	6 cases
1901	2 cases	1909	5 cases
1903	2 cases	1910	8 cases
1904	2 cases	1911	7 cases
1905	1 case	Unknown	12 cases

The diagnosis was made by

Spirochetae examination in	1 case
Symptoms in	26 cases
Wassermann and Noguchi in	35 cases
Total	62 cases

*Read at the San Francisco County Medical Society, Dec. 5, 1911.

Of the 62 cases—

17 cases or 27% had no treatment.
16 cases or 26% had poor treatment.
10 cases or 16% had fair treatment.
8 cases or 11% had good treatment.
11 cases or 18% had excellent treatment.

Results of treatment:

Of the 62 cases—

23 became negative, of which one case relapsed.
2 changed from x x x to x.
4 changed from x x x to x x.
14 disappeared, 3 of which were improved.
16 improved, that is symptomatically, 4 of which relapsed.
3 no improvement.

If we deduct the 11 cases from the 14 cases that disappeared (3 having shown improvement) that leaves 51 cases accounted for.

Of the 51—

8 or 16% either relapsed or showed no improvement.
43 or 84% showed improvement.

We will now analyze the 23 cases that became negative.

Of these 23 cases—

10 became negative after 1 injection.
7 became negative after 2 injections.
4 became negative after 3 injections.
1 became negative after 4 injections.
1 became negative after 6 injections.

To understand this table we will take the case negative after the 6th injection. This patient was in the secondary stage of lues and he had previously good mercurial treatment. The one patient who became negative after the 4th injection: this patient had only previously fair mercurial treatment and was in tertiary stage. Good and excellent mercurial treatment previous to our salvarsan treatment bears some relation to a rapid recovery, as 4 patients who received previously good treatment became negative after 2 injections, whereas 2 patients, one in the latent stage, the other in the secondary stage, became negative after 1 injection.

By-Effects.—There was only one alarming complication of any importance, which was Case No. 38. This patient was the mother of syphilitic infant, No. 31. She had, as shown by tabulation, a severe arsenical intoxication, severe diarrhea, albuminuria, anuria, jaundice, fever and collapse. She lost 25 pounds in weight. It developed six days after the "606" and continued for 4 weeks; recovered. Although patient was a vigorous woman, she should have had 0.5 instead of 0.6.

Case No. 13 reacted severely at time of injection. It was a very malignant case reacting badly to mercury. He had severe lesions of eye and throat, although he had been very conscientious in his mercurial treatment. Was very much improved by the one injection, but disappeared.

Case No. 10 had phlebitis after first and third injection, the first was slight; the third quite severe. At present writing (10 days since injection) arm is much improved.

TABLE NO. 2.

This tabulation shows character of previous mercurial treatment:

Stage of Disease.		Sex. M.	Sex. F.	None. No. of Cases.	None. Per Cent.	Poor. No. of Cases.	Poor. Per Cent.	Fair. No. of Cases.	Fair. Per Cent.	Good. No. of Cases.	Good. Per Cent.	Excellent. No. of Cases.	Excellent. Per Cent.
Primary	4	4	0	4	100	0	0	0	0	0	0	0	0
Secondary	23	18	5	7	30	3	13	1	5	5	22	7	30
Tertiary	25	21	4	3	12	10	40	7	28	3	12	2	8
Latent	9	7	2	3	33	3	33	1	11	0	0	2	22
Hereditary	1	1	0	0	0	0	0	1	100	0	0	0	0
	62	51	11	17	27	16	26	10	16	8	11	11	18

TABLE NO. 3.

The relation of the stage of lues, the number of injections to effect a negative reaction, and the character of the previous mercurial treatment:

	None.	Poor.	Fair.	Good.	Ex.	No. of Inject.
Negative after 1 injection	L. L. 1.	3. 3. 3.	2. 3.		L. 2.	10
Negative after 2 injections	L.	1.	3.	3. 2. 2. 2.		7
Negative after 3 injections	2.	3.	2.	2.		4
Negative after 4 injections			3.			1
Negative after 6 injections				2.		1
Total	5	5	5	6	2	23

No.	Sex.	Age.	Occupation.	Stage.	Date of Chancre.	Previous Treatment.	Symptoms.	Salvarsan injections. V—Intravenous. M—Intramuscular. Date.	Amt.	Method.	Wassermann and Noguchi. BI—Before injection. A 1—After 1st injection. Date.	N.	W.	Results.	Remarks.
1	M	34	Waiter	3rd	1904	Hg. internally and inunctions and KI for one year.	Perforation of nasal septum.	Jan. 24	0.6	M	Apr. 1	xxx	xxx	A 1	Much improved. In perfect health. Weight much increased.
								Apr. 15	0.6	V	Sep. 1	xxx	xxx	A 2	
								Oct. 1	0.6	V	Nov. 24		---	A 3	
2	M	24	Musician	Latent	1906	Took 65 injections.	Sexual vigor declining.	Feb. 6	0.6	M	Jan. 27	xxx	xxx	BI	Sexual vigor and general condition much improved.
								Apr. 10	0.6	V	Mar. 9	xxx	xxx	A 1	
								Apr. 28	0.6	V	Sep. 13	x	x	A 3	
								Sep. 20	0.6	V					
3	M	24	Druggist	Latent	Dec., '07	Hg. internally for two years.	None apparent.	Feb. 10	0.6	M	Feb. 10	xxx	xxx	BI	Disappeared.
4	M	38	Machinist	3rd	Jan., '02	Hg. internally for first 1½ yrs. Rest for 5 yrs.; then Hg. and iodide to date.	None present. Luetic orchitis in May, '09.	Feb. 14	0.6	V	Feb. 10	xxx	xxx	BI	No improvement. Refused further treatment.
								Apr. 3	0.6	V	Mar. 30	xxx	xxx	A 1	
								May 11	0.6	V	May 4	xxx	xxx	A 2	
											Jun. 8	xxx	xxx	A 3	
5	M	26	Electr'n	2nd	Apr., '09	No treat. first 5 mos.; Hg. injections and internally to date.	Lesions of mucous membrane and skin would disappear under Hg. to reappear.	Jan. 10	0.6	M	Feb. 20	xxx	xxx	A 1	No return of lesions since 2nd injection; general condition much improved; increase in weight.
								Feb. 21	0.6	V	Jul. 24	xxx	xxx	A 3	
								May 11	0.6	V	Sep. 9	---	---	A 6	
								Jul. 24	0.6	V					
								Aug. 3	0.6	V					
								Aug. 29	0.6	V					
								Sep. 9	0.6	V					
6	M	30	Merchant	Latent	1904	No treat. at all as was treated for chancroid; was undoubtedly a double infection; received 25 soluble inject. and KI in Dec., 1910.	None except symptoms of dizziness.	Feb. 27	0.6	V	12-16-10	xxx	xxx	.....	Before Hg. injections.
								Apr. 15	0.6	V	Feb. 17	x	--	.....	After Hg. injections.
								Sep. 22	0.6	V	Apr. 6	xxx	xxx	A 1	Felt well after 2nd injection; dizziness disappeared; increase in weight.
								Nov. 16	0.6	V	May 25	xxx	---	A 2	
											Aug. 17	xxx	x	later	
											Nov. 9	x	x	A 3	
7	M	43	Book-maker	Latent	1903	Hg. internally for first 6 mos. Three yrs. at Ark. Hot Springs. No treat. last 4½ yrs.	None.	Mar. 7	0.6	V	Mar. 4	xx	xx	BI	Negative.
											Apr. 13	---	---	A 1	
											Nov. 16	---	---	later	
8	M	44	Barber	1st	Feb. 28, '11	None.	Chancre.	Mar. 8	0.6	V	Mar. 8	---	---	too early	Negative; diagnosis made on the character of the chancre.
											May 2	---	---	A 1	
9	M	36	Musician	1st	Apr., '08	None.	Chancre.	Mar. 13	0.5	V	Mar. 9	---	x--	too early	No Spirochetae Pallida found. Lesion disappeared in 2 weeks. Habitue of Morph., min. dose 12 gr. per diem.
10	M	27	Merchant	Latent	1901	Hg. internally in very early stage. Received 25 sol. injections in Dec.	None apparent.	Mar. 16	0.6	V	Dec. 10	xxx	xxx	.....	Before Hg. injections.
								May 29	0.6	V	Feb. 24	x	x	.....	After Hg. injections.
								Nov. 21	0.6	V	Apr. 27	xx	x	A 1	Negative and then relapsed.
											Jul. 19	---	---	A 2	
											Nov. 9	xx	xx		

No.	Sex.	Age.	Occupation.	Stage.	Date of Chancre.	Previous Treatment.	Symptoms.	Salvarsan injections. V—Intravenous. M—Intramuscular. Date.	Amt.	Method.	Wassermann and Noguchi. BI—Before injection. A 1—After 1st injection. Date. N.	W.	Results.	Remarks.
11	M	21	Clerk	3rd	Apr., '08	Hg. internally and KI for 3 mos.	Eruption.	Mar. 16	0.6	V			Disappeared.	
12	F	19	Housewife, wife of No. 11	3rd	Nov., '08	Hg. internally.	Slight eruption.	Mar. 16	0.5	V			Disappeared.	
13	M	30	Glass-worker	2nd	Oct., '09	Hg. and arsenical injections.	Mouth and skin lesions still present iritis; deep lesion of pharynx.	Mar. 18	0.6	V			Disappeared.	
14	M	40	Chinese merchant	2nd early	Jan., '11	Treated by Chinese doctor.	Syphilitic laryngitis; papulo-squamous eruption over chest, feet and hands; mucous patch on tonsil.	Mar 25	0.6	V			Eruption disappeared in about 2 weeks. Laryngitis improved. Disappeared.	
15	F	26	Housewife	Latent	Unknown	None.	Secondary anemia. Husband confesses to lues.	Apr. 7	0.6	V	Apr. 1 May 25	xxx xxx BI --- --- A 1	Patient feels well.	
16	M	33	Laborer	2nd mailg.	Apr., '09	Hg. internally since infection.	Nocturnal headaches; 6 gummata, 2 on left forearm, 4 on left leg, which began in Nov., '10.	Apr. 4 May 2 Jul. 19	0.6 0.6 0.6	V V V	Apr. 4 Jul. 7 Nov. 18	xxx xxx BI --x --- A 2 --- --- A 3	Lesions all healed; general condition much improved. Weight increased 19 lbs. Negative.	
17	M	41	Barber	3rd	1903	Hg. internally 1st year; then indifferent as to treat.; soluble injections last 8 or 9 mos. Hot Springs in Feb.	Nocturnal and diurnal headaches began 8 mos. ago, resisting all treat.—2 perforations of palate, red swollen area right nostril.	Feb. 19 Apr. 5 Jul. 10	0.6 0.6 0.6	M V V	Apr. 5 Jul. 8	xxx xxx A 1 xx xx A 2	Headaches disappeared immediately after 1st injection, remission of three weeks (Feb. 19 to Mar. 12), then became severe again; disappeared after 2nd injection. Have not reappeared. Gain in weight 15 lbs. Small perforation almost closed.	
18	M	23	Prop. Livery Stable	3rd	1905	Inunctions first month; few injections on and off during 1910.	Gumma of testicle 1½ yrs. ago.	Apr. 4 Nov. 5	0.6 0.6	V V	Mar. 30 Aug. 10	xxx xxx BI xx xx A 1	Still under treatment.	
19	M	32	Waiter	2nd	Jan., '10	Hg. internally and injections and KI for 2 years.	Mucous patches and syphilides.	Apr. 12 Jul. 8	0.6 0.6	V V	Apr. 8 Jun. 1 Aug. 15	xxx xxx BI xx x A 1 --- --- A 2	Negative. Much improved.	
20	M	41	Salesman	3rd	Unknown	Injections and internally for 4 yrs.	Large gumma of rectum and loss of sexual power.	Apr. 15	0.6	V	Mar. 23	xxx xxx BI	Mass in rectum disappeared in one week. Sexual power restored.	
21	M	34	Commission Business	2nd	Aug., '10	Hg. inunctions and internally since infection.	Squamous papules over face and body.	Apr. 29	0.6	V			Eruption disappeared to reappear in Sept.	
22	F	27	Waitress, wife of No. 21	2nd	Aug., '10	Hg. inunctions and internally since infection.	Nocturnal headaches; squamous papules over body; menorrhagia.	Apr. 29	0.6	V			Eruption, headache and menorrhagia disappeared. Rash reappeared slightly.	
23	M	33	Letter Carrier	3rd	1902	Hg. internally 1st 8 mos., then discontinued until Jan. '07; injections until Sept., '07; rest until Oct., '08, then took few injections.	Old scars from previous pustular syphilides; malaise.	May 13 Jun. 10 Aug. 12 Oct. 3	0.6 0.6 0.6 0.6	V V V V	Aug. 3 Nov. 3	xxx xxx A 2 -- --- A 4	Much improved; 12 lbs increased in weight.	
24	M	54	Longshoreman	3rd	1880	Hg. internally 1st 3 mos.	Ulcers of legs.	May 10	0.6	V	May 6 Sep. 9	xxx xxx BI --- --- A 1	Leg ulcer well. Negative.	
25	M	32	Waiter	3rd	Jun., '06	Hg internally and inunctions 2 yrs.	General anemia. Malaise.	May 15 May 30	0.6 0.6	V V	May 11 Jun. 10	xxx xxx BI --- --- A 2	General condition improved. Increase of 16 lbs in weight. Negative.	
26	M	36	Waiter	Latent	Jul., '06	Injections continuously.	None apparent.	May 17 Jun. 14 Oct. 13	0.6 0.6 0.6	V V V	Jan. 12 Jul. 15 Nov. 9	xxx xxx BI xxx xxx A 2 xx A 3		
27	M	27	Lumberman	2nd	Jul., '10	Hg. internally and inunctions.	Mucous patches; enlarged glands; laryngitis; condyloma.	Apr. 26	0.6	V	Apr. 24	xxx BI		
28	M	28	Butcher	3rd	Jun., '06	Hg. injections.	Ulcer on tongue.	May 22 Nov. 12	0.6 0.6	V V	May 18	xxx BI	Ulcers on tongue disappeared. Reappeared Nov. 1st.	
29	M	35	M'f'g agt.	2nd	Feb., '10	Hg. injections from Aug., '10, to Feb., 11.	Mouth—mucous patches only.	May 19	0.6	V			Refuses further treatment as feels so well.	
30	M	31	Butcher	3rd	1906	Hg. internally.	Ulcer on tongue; enlarged glands.	May 22	0.6	V				
31	M	4½ mos.	Child of No. 32	Hereditary	?	Inunctions and KI.	Child moribund; weight at birth 6¾ lbs. On day of injection 4½ lbs.	May 29	.02	M			Taken from breast at time of mother's intoxication. Has pemphigus since injection, but has disappeared. Much improved. Weight is 16 lbs. Refuse further treatment.	
32	M	26	Marine Eng.	2nd	Oct., '08	Hg. internally.—Soluble injections.	None.	Jun. 2 Jun. 8	0.6 0.6	V V	May 2	xxx x BI	Will take further treatment.	

No.	Sex.	Age.	Occupation.	Stage.	Date of Chancre.	Previous Treatment.	Symptoms.	Salvarsan injections. V—Intravenous. M—Intramuscular. Date.	Amt.	Method.	Wassermann and Noguchi. BI—Before injection. A 1—After 1st injection. Date.	N.	W.	Results.	Remarks.
33	M	27	Laborer	2nd	Unknown	None.	Condyloma of rectum and scrotum. Macular syphilides.	Jun. 5	0.6	V				Disappeared.	
34	F	31	Housewife, wife of No. 33	2nd	Jan. 11, '11	None.	Condyloma of rectum and vagina. Pregnant 3 mos.	Jun. 5	0.4	V				Disappeared.	
35	M	40	Foreman of construct. work	3rd	1895	Protoiodide 1895 to 1898. No treat. since.	Arthritis — Pains shooting along thighs.	Jun. 12 Jun. 21 Aug. 31	0.6 0.6 0.6	V V V	Jun. 9 Jul. 29	xxx xx	xxx ---	BI A 2	Pains have disappeared entirely.
36	M	21	Civil Engineer	2nd	Apr., '11	None.	Chancre—Eruption Adenopathy.	May 31 Jun. 6 Jul. 10	0.6 0.6 0.6	V V V	Apr. 4 Jul. 7 Oct. 7	xxx xxx ---	xxx x ---	BI A 2 A 3	Disappearance of all symptoms.
37	M	31	Prop. of Cafe	3rd	1901	Hg. internally but with no regularity.	Lesions on back, thigh, penis. Sensitive nodule over trapezius.	Jun. 13 Jun. 20	0.6 0.6	V V	Jun. 8 Aug. 17	xxx xxx	xx xx	BI A 2	Disappearance of all lesions. Increase of 7 lbs. in weight. Feared further treatment.
38	F	24	Housewife	2nd	?	None.	None. Husband gave luetic history. Mother of No. 21.	Jun. 20	0.6	V					Arsenical poisoning. Collapse; severe diarrhea; albuminuria; anuria; jaundice; fever; loss of 25 lbs. Developed 6 days after injection, and disappeared in four weeks. Well but refuses further treatment.
39	M	27	Clerk	2nd early	May 23, '11	None.	Chancre—Secondaries appeared Jun. 19, 1911.	Jun. 28	0.6	V	May 24 — 2 specimens dark field condenser and 2 smears with Giemsa stain neg. Aug. 3	xx	x	A 1	Induration in chancre and secondaries disappeared within one week. Refused further treatment.
40	F	25	Housewife, wife of No. 29	2nd	Unknown	None.	Macular eruption.	Jun. 30	0.5	V	Jun. 20	xxx	---	BI	Feels so well refuses further treatment.
41	M	40	Plumber	3rd	Aug., '06	90 intramuscular injections. Internal medication.	Pustular syphilides.	Jul. 6	0.6	V	Jul. 1 Sep. 10		xxx ---	BI A 1	Disappearance of all symptoms.
42	F	24	Housewife	Latent	Unknown	None.	Severe secondary anemia. Progressive loss of weight.	Jul. 10 Aug. 15	0.6 0.6	V V	Jul. 1 Aug. 4	xxx	xxx xxx	BI A 1	No results.
43	M	38	Bookbinder	3rd	Apr., '07	Intramuscular injections for 4 mos.	Pains in shoulder; worse at night.	Jul. 14	0.6	V	Jul. 10 Aug. 1		xxx ---	BI A 1	Bone pains relieved.
44	M	21	Bartender	2nd	Dec. 10, '10	None.	Mucous patches in mouth; alopecia macular eruption.	Feb. 16 Jul. 17 Jul. 24	0.6 0.6 0.6	M V V	Feb. 15 Jul. 13		xxx xxx	BI A 1	Still shows some mucous patches.
45	M	37	Laborer	3rd	Unknown	Injections and internal.	Ulcers both legs. Pustular eruption over body.	Jul. 17 Jul. 24	0.6 0.6	V V					Ulcers disappeared entirely; patient disappeared. Nov. 15 ulcers returned.
46	M	42	Clerk	3rd	1899	Injections, internal, inunctions.	Retinitis.	Jul. 19 Jul. 26	0.6 0.4	V V	Jul. 2 Nov. 9		xxx ---	BI A 2	Right eye very good; slight improvement in left.
47	M	31	Drummer	3rd	1906	No general treat.	Preataxic symptoms. Optic neuritis.	Apr. 5 Jul. 24 Jul. 31	0.5 0.4 0.4	M V V	Apr. 4 Jul. 13		xxx xxx	BI A 1	Much improved; vision improved; gait better.
48	M	29	Veterinary Surgeon	2nd	Apr., '09	Inunctions, internal.	Mucous patches.	Jul. 24 Aug. 1	0.6 0.6	V V	Jul. 15 Sep. 30		xxx ---	BI A 2	All symptoms disappeared.
49	F	23	Housewife, Japanese	3rd	Unknown	None.	Epitrochlear glands size of hen's egg; cervical enlarged.	Jul. 26	0.5	V					Results excellent. Patient disappeared.
50	M	32	Clerk	3rd	Mar., '07	Injections and internal for 1 yr.	Severe pains in legs; profuse sweats.	Aug. 2	0.6	V	Jul. 29 Aug. 20	xxx	xxx ---	BI A 1	Negative. Relieved of all pains in legs.
51	F	35	Housewife	3rd	Unknown	None.	Syphilitic arthritis and headaches.	Aug. 4	0.4	V	Aug. 3	xx	xx	BI	Results unknown; patient disappeared.
52	F	29	Housewife	2nd	Unknown	Injections for one year.	Syphilides on arms and legs.	Aug. 4 Aug. 15 Oct. 19	0.6 0.6 0.6	V V V	Aug. 1 Nov. 20	xxx	x ---	BI A 2	Much improved.
53	M	23	Clerk	2nd	Jun. 8, '10	Injections for one year.	None apparent.	Aug. 6	0.6	V	Aug. 5 Oct. 7	xx	xxx ---	BI A 1	Negative. Patient is well.
54	M	24	Electr'n	2nd	1908	Internal—Springs.	Laryngitis; mucous patches; macular eruption; alopecia; ulcer glans penis; condyloma scrotum.	Aug. 8 Aug. 15	0.6 0.6	V V					Skin cleared in 10 days. Rectum well in 10 days.
55	M	43	Laborer	Latent	Unknown	None, as was never aware of any lues.	Obscure pains in groin.	Aug. 9 Aug. 15	0.6 0.6	V V	Aug. 8 Sep. 23 Sep. 28	xxx	xxx --- ---	BI A 2 A 2	Not any improvement.
56	M	24	Bank clerk	3rd	1908	Hg. internally for 3 yrs. Inunctions.	Syphilitic orchitis and epididymitis.	Aug. 12 Sep. 16 Nov. 5	0.6 0.6 0.6	V V V	Aug. 3 Nov. 4	xxx xxx	xxx xxx	BI A 2	Still under observation; testicle and epididymis normal; weight increased.
57	M	34	Weigher	3rd	1899	Hg. internally for 1 yr.	Loss of patellar reflex; loss of sexual power; bladder paralysis.	Aug. 16 Aug. 24	0.6 0.6	V V	Jul. 15 Sep. 15		xxx ---	BI A 2	Recovery of bladder paralysis; sexual power returned.

No.	Sex.	Age.	Occupation.	Stage.	Date of Chancre.	Previous Treatment.	Symptoms.	Salvarsan injections. V—Intravenous. M—Intramuscular. Date.	Amt.	Method.	Wassermann and Noguchi. BI—Before injection. A 1—After 1st injection. Date. N. W.	Results.	Remarks.
58	F	33	Secretary	3rd	1899	Hg. internally for 2 yrs.	Enlarged liver; obscure pains in liver and stomach.	Sep. 17 Sep. 23 Nov. 5	0.5 0.5 0.5	V V V	Aug. 5 xxx BI Nov. 2 xxx xxx A 2	Condition much improved; pains entirely well. Still under treatment.	
59	M	37	Teamster	1st	Sep. 3, '11	None.	Chancre.	Sep. 18 Sep. 25	0.6 0.6	V V		Cleared in 10 days.	
60	M	50	Bridge-builder	2nd	Aug. 6, '10	Hg. internally; KI inunctions; large number of proprietaries.	Squamous eruption; glands enlarged; old iritis and cyclitis.	Oct. 3	0.6	V		Still under observation.	
61	M	32	Merchant	2nd	Mar. 17, '09	Soluble injections.	Mucous patches.	Jan. 12	0.5	M	7-10-09 xxx ..... 12-16-10 x --- BI 2-17-11 --- --- A 1 7-17-11 --- --- later	Before Hg. injections. No return of any symptoms.	
62	M	27	Salesman	1st	Jul. 29, '11	None.	Chancre.	Aug. 5	0.6	V	Aug. 3—Full of typical spirochet pallida. Sep. 13 --- --- A 1 Oct. 27 --- --- later	Chancre disappeared in 72 hours.	

The highest temperature was about 102°, there have been chills, numerous spells of vomiting (as many as 10 times in some cases), sweating, diarrhea, but no cases of collapse, except in case noted above. We have had no sloughs. One French writer claimed that by the use of distilled water in mixing your salvarsan there would be no vomiting, others claim by not eating before injection the same would result, but we have not found this to be the case.

All intravenous cases were kept in bed from 8 to 24 hours, the majority, however, left the hospital in 12 hours.

Relapses. So far only case No. 10 has relapsed. It may be that there will be a larger number of relapses; time alone can tell. After a negative reaction, it is difficult to get your patients to take another test to still further confirm your negative. At present we have had four cases besides case No. 10 (Nos. 16, 43, 61 and 62), take another test after a negative reaction.

Wassermann and Noguchi Reaction. In all of my personal (Gross) cases, I have always had both tests made as I find the Noguchi the finer of the two. If we take case No. 6 as an instance, we will find that on May 25th, according to our Wassermann reaction it was negative, according to most men a cure temporary or permanent. According to our Noguchi, the patient was not cured. He was advised to take another salvarisan injection, but hesitated; later he decided to get another test made, which was done on August 17th, when you note the change to Wassermann x.

Before closing I wish to emphasize the fact that all of these cases have had no mercury after their salvarsan injection, in order to assist in establishing the utility of this new drug, salvarsan only has been used. Should there be any recurrences, we expect whenever possible to give another injection of "606." Time only can tell whether relapses will occur in our negative cases. We think that if there are no relapses either in our serum tests or symptomatically for a period of one year, the patient should be considered cured of his leutic infection. From the analysis of both Wassermann and Noguchi tests, after administration of salvarsan, we are entitled to draw the following conclusions:

1. One injection does not cure all cases. It may take from one to six treatments.
2. The negative reaction appears earlier in cases that have previously had well administered mercurial treatment.
3. So far as our present cases are concerned we see no necessity of administering mercury, but can depend on salvarsan entirely.
4. We do not claim salvarsan an unfailing specific but one that does possess unusual potency.
5. We shall assume a cure only after repeated negative findings for at least one year and shall endeavor to impress upon our patients the necessity of further periods of observation indefinitely as a control on the activity or abeyance of the disease.
6. The great superiority of salvarsan over mercury is shown in the rapid and probably permanent disappearance of the serum reaction, after one or more injections of salvarsan, in patients who had been previously treated for from one to four years with mercury and in whom the serum reaction had remained positive.
7. In order to appreciate our results our treatments must be followed by serum reaction tests.

REMEMBER!

STATE SOCIETY MEETING,

Del Monte,

Tuesday, Wednesday and Thursday,
April 16th, 17th and 18th.

Railroad rates, one and one-third fare for the round-trip.

EXCERPTS FROM RECENT ITALIAN EYE LITERATURE.*

By VICTOR F. LUCCHETTI, M. D., San Francisco.

Mr. President, and Members of the Eye and Ear Section of the County Medical Society:—

In reviewing the recent Italian Eye Literature of the last few months, I have endeavored to give to you a succinct report of what I deemed would be not only of scientific value, but also of a practical character as well.

I have been fortunate enough to find a sufficient number of articles treating of subjects somewhat allied; so that I am able to give a symposium on external ocular affections.

There were many contributions which although very interesting, I thought best to eliminate on account of the length and abstruse manner of the subject matter presented therein; and they would probably be of less practical value to you than the few that I have elected to give on this occasion. Among these, the first contribution that appeals to me a sbeing of sufficient importance and worthy of mention, is one which treats of a series of interesting researches on the pathology of Trachoma as carried on by Casali of Florence; and, I am of the opinion that any channels of investigation that will bring about a solution of this arduous problem which is still baffling science, deserves our highest appreciation.

ON THE PRESENCE OF THE CORPUSCLES (BODIES) OF PROWAZEK AND HALBERSTAEDTER IN TRACHOMA AND IN OTHER AFFECTIONS OF THE CONJUNCTIVA.

Although it is only since 1907 that Prowazek and Halberstaedter described inclusion of cells in the epithelium of the trachomatous conjunctiva, there have been not a few publications on the subject, which partly confirm and partly contradict all that the above authors have maintained. Notwithstanding this fact, we do not as yet know with certainty what these bodies signify, and there is still some controversy as to their presence more or less frequent in affections non-trachomatous of the conjunctiva, and even in the normal conjunctiva; and for this reason, Dr. Angelo Casali of the University of Florence, with a series of important researches, has offered a new contribution for the solution of this problem, and in answer to the principal questions which at the present time are being agitated regarding the subject, and which are given as follows:

1. The Clamidozoon of the Prowazak and Halberstaedter is specific for trachoma and represents the etiologic factor (as maintained by P. and H., Lindauer, Bertarelli and others).

2. Similar bodies which are found in other affections of the conjunctiva although morphologically the same are biologically different. (Gallengo).

3. In the conjunctivitis of the newborn without any bacteriologic findings in which we find the bodies of P. and H., must come under the heading of trachoma. (P. and H., Lindauer, Volfrum and others.)

4. The bodies of P. and H. are specific for the affections of the conjunctiva by inclusion, and they do not have any pathological importance for trachoma. (Heyman.)

5. The bodies of P. and H. are nothing more than modified cocci or Neisser, and therefore, trachoma is a disease due to the coccus of Neisser. (Herzog.)

6. These bodies have neither pathologic nor diagnostic importance for trachoma. (Addario, Spoto.)

7. The bodies of P. and H. have a certain diagnostic importance for trachoma. (Brayer, Gruter, Bietti, etc.)

In order to answer these questions, Casali has made studies and researches in one hundred cases, divided as follows:

10 cases of chronic trachoma,
10 cases of acute trachoma or acute exacerbation,
10 cases of follicular conj.,
10 cases of acute catarrhal conj. caused by pneumococus,
10 cases of catarrhal conj. caused by the bacillus of Koch-Weeks,
10 cases of subacute conj., caused by diplobacillus of Morax-Axenfeld,
10 cases of spring catarrh,
10 cases of conj. of the newborn caused by coccus of Neisser,
10 cases of conj. in adults caused by coccus of Neisser,
10 cases of normal conj.

He states that he has found these bodies only in trachoma and in the conj. of Neisser. The figures and percentage are hereby given:

6 cases of chronic trachoma, or 60%;
7 cases of acute trachoma or acute exacerbation, or 70%.
2 cases of conj. Neisser in the newborn, 20%.
1 case of conj. Neisser in adults, 10%.
In the remaining cases the results were negative.

On this basis he answers the 7 questions as given above as follows:

First, as to whether the Clamidozoon of P. and H. is specific for trachoma, and represents the etiologic factor (as maintained by P. and H., Lindauer, Bertarelli and others), he answers "No."

Second, as to whether similar bodies which are found in other affections of the conj. although morphologically the same are biologically different (Gallenga), he concludes that it can only be viewed as an hypothesis.

Third, as to whether in the conjunctivitis of the newborn without any bacteriologic findings in which we find the bodies of P. and H., must come under the headings of trachoma (P. and H., Lindauer, Volfrum and others), he points out that this hypothesis does not explain why we find these trachoma bodies in diseases which have nothing to do with trachoma.

Fourth, as to whether the bodies of P. and H. are specific for the affections of the conjunctiva by inclusion, and they do not have any pathological importance for trachoma (Heyman), he finds that these are mixed infections, and that trachoma and

* Read before Eye, Ear, Nose and Throat Section of the San Francisco County Medical Society, July 25, 1911.

the conj. of Neisser can accompany one another alternately.

Fifth, as to whether the bodies of P. and H. are nothing more than modified cocci of Neisser, and therefore trachoma is a disease due to the coccus of Neisser, he answers that the opinion of Herzog is against himself, inasmuch that in a series of 20 cases of infection by the coccus of Neisser, he observed trachoma bodies in three.

Sixth, as to whether these bodies have neither pathologic nor diagnostic importance for trachoma (Addario, Spoto), he claims that their opinion is a little far fetched, and

Seventh, as to whether the bodies of P. and H. have a certain diagnostic importance for trachoma (Brayer, Gruter, Bietti, etc.), he also claims that if it is disputable that these so-called clamidozoa of trachoma are the real agents of this malady, his researches authorize him to maintain that they constitute by their presence a very important diagnostic factor. As they were never found in any of the conjunctivites such as the follicular spring catarrh, acute catarrh with hypertrophy of the papilla.

In questioning himself as to whether the bodies of trachoma are real organisms or represent products of secretion of the cell as maintained by Addario, he is inclined to admit rather the first than the second hypothesis, which is in keeping with the ideas of Lindauer and Heyman; and having found the nuclei of a binucleated cell invaded by the bodies of P. and H., in a condition of kariokynesis, he drifts away from the theory of Fleming that they are microorganisms, which are found as parasites in the different desquamating catarrhs of the mucous membrane; and he concludes that from believing that these bodies are true pathogenic micro-organisms, to recognizing them as specific agents of trachoma. There is a great difference, and he is rather inclined to the opinion of Heyman which is more nearly correct, that their presence in trachoma, and the conj. of Neisser, that it is a mixed infection; an opinion which is also supported by Noguchi, Bretti, and Betti.

Having presented the pathological contribution of trachoma, I have thought it advisable to submit a surgical contribution by Piccaluga of the University of Turin, for a new and rational method for the cure of Entropion and Trichisis of the upper lid. The method is as follows:

1. (a) Make an incision parallel to the margin of the lid and 3 m. m. from it, extending from the int. canthus to the ext. canthus, including the skin and orbic muscle.

(b) Make a similar incision parallel to the first, and 3 m. m. above it, so that there is formed a musculo-cutaneous bridge attached at both extremities.

(c) Dissect from the tarsus the above musculocutaneous bridge. Below the bridge loosen the skin at the margin of the lid as far as the cilia. Above this bridge loosen as far as the insertion of the Levator Palpebrae.

2. Resection of Tarsus parallel to margin of the lids at point of greatest curvature, and down to the conj. and including it.

3. Four silk sutures are taken in the form of a loop, and from each other. Each suture is armed at both ends with curved needles. One is inserted under the fibrous tissue of the Levator tendon and Tarsal ligament, at the point where it is inserted into the Tarsus. It is then brought out immediately at the anterior surface, making a narrow plica, and then passing in front of the Tarsus, and above the musculo-cutaneous bridge through the skin of the margin of the lid from behind forward, so that it comes out above the insertion of the eyelash. With the other needle proceed as above at a distance of 1 m. m. from the first, making thereby a loop, which has its central point fixed at the Levator tendon, and the ends of the sutures appear at the margin of the lid. The other three loops are disposed of in the same manner.

It is necessary to see that the small cutaneous bridge is caught between the sutures and the Tarsus, otherwise the effect of the pressure on the convex surface of the Tarsus would fail. The ends are tied with a bead in order to avoid necrosis of the skin.

The skin of the upper and lower margins are brought together by sutures. He applies a collodion dressing in order to fasten them to the frontal region.

The author applies the same operation for the correction of spasmodic entropion of the lower lid.

In the field of Ocular Therapeutics I refer to contributions, one on the use of Jequiritine in Malignant Growths.

In several of the Italian Clinics much has been done with the application of Jequiritine after the method of Rampoldi of the University of Pavia, in cases of rodent ulcers and Epitheliomata of the eye. The author applies it in small discs in ascending doses directly to the affected part. A quite violent reaction is set up; a heavy scab is formed which discharges, and is thrown off in a few days.

This occurs several times before complete healing is obtained, and it seems to have given most excellent and permanent results, and all who have used it in these cases, judging from recent literature, seem to be very enthusiastic about it.

Guaita of Florence has made considerable use and attained good results with the use of Scarlet Red, and a 3% salve in cases of Epitheliomata of the conj. He curetted the growth slightly and applies the ointment. For growths on the lids he uses 8%, but where he has found it of incalculable value has been as a cicatrizing agent after cataract operation, where the anterior chamber does not form on account of the margins of the incision failing to heal rapidly. The formula used is that of Kragca, and is as follows:

8 grams of Scarlet Red are triturated with oil and chloroform until the latter is evaporated, and then vaseline is added to make 100 grams.

In the field of Ocular Bacteriology an important contribution has been made by Verderame, who has discovered a new scarcina that has not as yet been described. Its characteristic features are that it is gram-negative. It develops in all cultural media at the temperature of the body. It is facoltative anaerobic, liquefies Loeffler's blood serum but not gelatine, does not coagulate milk, causes slight de-

velopment of H_2S, causes fermentation of maltose, levulose, etc. There is an absence of mobility, spores and filaments, and given its property to form a lemon yellow pigment in all cultural media, he has given it the name of Scarcina, citrea conj., not to be confounded with the Scarcina citrina, which has entirely different properties.

From experiments made, he finds that it is found in the conj. with other cocci and bacilli; but that it has no special pathogenic importance for the human being, which is in keeping with all other scarcina thus far described; with the exception of that described by Nagano, which was only pathogenic for rat and rabbit.

A CASE OF MALIGNANT EDEMA.*

By JAMES EAVES, M. B., Ch. B. Edin., Lane Hospital, San Francisco.

On account of the unusual symptoms and difficulties in diagnosis I decided to present this case, thinking it might have an interest to those who had not seen it. Not to trespass too much on your time I will direct your attention to the principal points the case presents.

Patient D. G. (Dairyman), age 37. Family history, etc., negative.

Present History: Ten days ago patient assisted in skinning one of three cows. These cows had died the previous day of an unknown disease. As far as the patient remembers they displayed no symptoms before death, being apparently well and had no subcutaneous glandular enlargements. Five days ago the patient noticed three pimples on his left wrist; one over the dorsal aspect, one on the volar surface and one over the distal articular end of the radius. The following day patient noticed swelling commencing in the region of the wrist, extending to the hand a few hours later. Two days later the swelling extended to the forearm.

Pain: first set in two days after the swelling commenced and was in the arm entirely, being steady and sharp in character. Pain is not increased on slight movement.

The upper limb has a tense hot feeling to the patient.

When the swelling first commenced, patient applied a hot flax-seed poultice, which was followed by a serous bloody exudate from the pimples.

Physical Examination: Patient a well nourished man of 37 years. Facies pale and somewhat anxious. Left upper limb and hand swollen to about twice the normal size, being tense and brawny. On the volar surface are numerous bluish black blebs, averaging about a centimeter in diameter, raised from the surrounding surface about 1 cm. These blebs are not distinct from one another, their borders fusing and following in a general way the natural folds of the wrist. On the medial surface of the forearm and extending up on to the anterior surface are about 30 blebs averaging about 1½ cm. in diameter, hemispherical, pale, transparent and containing presumably a clear serous fluid. Movement of the elbow is only limited by the swelling, pain on attempted movement being very slight.

Glands: epitrochlear, axillary, etc., not palpable.

Palpation: no crackling but marked pitting on pressure, the patient complaining of pain.

Edema: since admission becoming markedly increased, extending to shoulders and chest.

Operation: by Dr. Stanley Stillman, at 5:30 the same day of admission. Tissues freely incised to deep fascia. Edema extending to a depth of three inches. No pus. Clear, watery fluid exuding. No glandular enlargements evident. Hot boracic fomentations applied and whole upper limb soaked in a bath of 1-10,000 bichloride 1 hour in 3.

Progress of the case: Pulse and temperature on the first day little affected. Second day, weak and rapid pulse and rise of temperature to 102°, remaining so until the end.

Visits: On repeated visits the patient was pale and anxious. Later stages exhibited a picture of collapse.

Before Operation.

Morning of demise pulse could not be felt. Patient did not seem entirely conscious and died in the early hours of the morning with no respiratory difficulty the eighth day of disease.

Postmortem Findings: The points at autopsy that I think of chief importance are the following:: Edema extended down between the muscles to bone; no gas; axillary lymph nodes swollen, the largest being about the size of a small hazel nut; no hemorrhages.

Bacteriological Report: Fluid taken from blebs on wrist time of admission—fluid taken from incised wounds, etc., all negative. Bacillus of anthrax first isolated from smears from the axillary nodes.

*Read before the Cooper College Science Club, Nov. 6, 1911.

Commentary.

The patient did not suffer any evident distress. His memory remained clear throughout. No nausea or headache but exhibited to a degree a picture of shock. The blisters suggested the possibility of the case being one of malignant pustule, but this was rendered improbable by the failure to find the anthrax bacillus in the fluid of the blebs. It was a striking fact that with such marked objective signs there were so few subjective symptoms, i. e., the general symptoms did not bear any relation to the severity of the initial lesion, the general infection being to all intents and purposes slight.

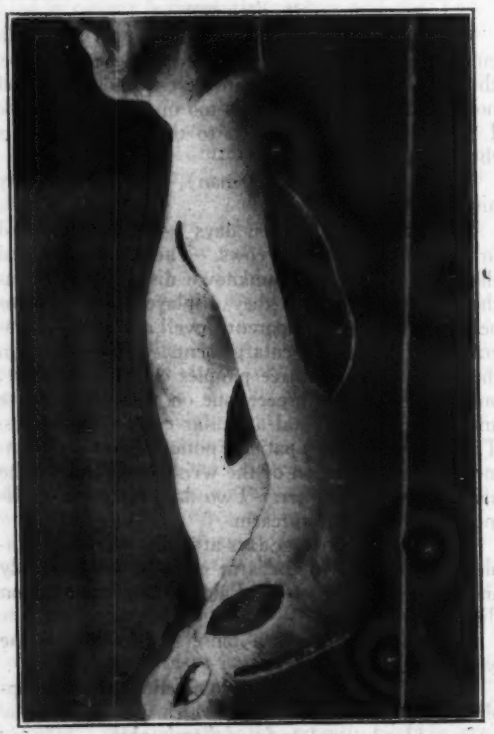
Edema: This is a question to which I would like to call your attention. Should we look upon this edema as being a reactive process injurious to the bacilli already present and unfavorable to their further development, or was it a passive edema arising from injury to the capillaries, blocking of lymphatics, etc.? According to our answer to this question we should either follow the expectant treatment or by incisions diminish the exudation and relieve the pressure.

The noteworthy point regarding this case was that it did not follow the usual course of a local anthrax infection but in the enormous edema present, and absence of any malignant pustule corresponded to the type described by Bourgeois as "Edème Malin," the so-called erysipelatous anthrax. This also agrees with the type described by Osler as the "Malignant Anthrax Edema" except that in this case vesicles and papules were present.

Discussion.

Dr. Emmet Rixford: I have seen only one case to be compared with this. It was in 1892 in Roosevelt Hospital under the care of Dr. McBurney. The man had received a scratch and 48 hours afterwards his arm was enormously swollen to the shoulder and gangrenous to the elbow. In a few hours more the swelling had extended from the left shoulder to the opposite shoulder. The skin was somewhat reddened but in this case of Dr. Eaves there was little or no redness of the skin. Dr. Stillman has just said that possibly this edema was protective and that possibly his very free incisions relieving the edema hastened the patient's end. I would say that these incisions made by Dr. Stillman were of homeopathic dimensions compared to the tremendous incisions made by Dr. McBurney in his case. I do not know whether Dr. McBurney's patient died any sooner than Dr. Stillman's did. The clinical picture presented by these cases is very different from that of the more common gas bacillus infections of which I have seen a number. In one case the interesting thing was that the point of infection was within the patient's own anus; there was a small tear, apparently a rectal fissure, and from that extended the gas bacillus infection to the perineum and groin, following up the course of the lymphatics on both sides. The scrotum sloughed completely and although we made very extensive incisions and cleaned out the area very widely the patient lived but 2 days. Another case of this kind was that of a Chinese whose leg was amputated by a street car. In this case the crepitation extended to the middle of the thigh within 24 hours. I amputated at the upper margin of the edema but put in no stitches, merely ligating the vessels, and left the wound gaping and washed it with saturated solution of salicylic acid in hot alcohol. I did that because I saw a case in which Dr. L. L. McArthur of Chicago had done it; it was a case of gas bacillus infection of the thigh, where after excising a wide area he had washed the wound with saturated salicylic acid in hot alcohol and packed the wound with gauze saturated with the same solution. My patient recovered. In another case of gas bacillus infection of a compound fracture of the leg free incision resulted in recovery. In two other cases, similar incisions had no effect in staving off the death.

Dr. Wm. Ophuls: This case is very interesting. I saw the man clinically and from the clinical picture an infection with ordinary gas bacillus could be excluded for the reason that there was not any trace of gas in his tissue. However, it is possible that there may be infections with anaerobes with which there is not gas formation in the tissues. This is true in regard to cattle, where in black leg we may find no gas in the tissues and still get tremendous edema. From the apparently initial lesion it was impossible to obtain any growths, and although naturally from the history we thought of the possibility of anthrax, still we were of the opinion that we might exclude it on account of the absence of all signs of malignant pustule. Even at autopsy we had quite a little time discovering the real cause of the trouble. Careful examinations were made of the edematous tissues as well as that obtained from the muscle and still we were not able to find any bacteria. Then we found some large Gramm positive rods in some of the smears and came to the conclusion that we had to deal with one of the anaerobes and some unusual type of malignant edema. Some of the material, however, was sent to the Bacteriological Laboratory at Stanford and we received the report that the anthrax bacillus had grown quite typically. Later it was definitely shown that these bacilli were anthrax. It produced typical lesions in guinea pigs and other animals. There is no doubt, however, that this is an anthrax infection of an unusual type.



Post-mortem.

Dr. Leo Eloesser: It has often struck me that the pictures that we see of infections in California are different to those described in the text books and those seen in the clinics abroad. I saw a case similar to Dr. Eaves' at the City and County Hos-

pital a year and a half ago. The patient had been admitted under the diagnosis of erysipelas and I was called in to do a tracheotomy. He was asphyctic and comatose, but the trachea was free, so that I did not do anything; the man was moribund at the time and died about 6 hours afterwards. There was subcutaneous edema all over the upper part of his body. The edematous fluid showed a Gramm positive bacillus in great numbers which grew readily in aerobic cultures. I showed it to Dr. Ophuls and he said that it could not be malignant edema. I suppose that it was one of those erysipelatoid forms of anthrax. He had no initial pustule or lesion that I could discover.

Dr. James Eaves: In the treatment of such cases two divergent methods have been followed; the majority consider that prompt and extensive incision offers the only hope. Müller on the other hand regards the edema as a purely defensive process which should not be interfered with and recommends fixation of the limb and general stimulating treatment. He fears incision as likely to give rise to a general infection; the pathological facts on which he bases the expectation have, however, lately been called in question. In cases where there is a pustule, early excision is the only way. We had a number of cases of malignant pustule at Guy's Hospital, and excision combined with the use of Sclavo's serum gave excellent results.

MULTIPLE PAPILLOMATA OF THE LARYNX IN CHILDREN—REPORT OF TWO CASES.*

By E. C. SEWALL, M. D., San Francisco.

I wish to report two cases which have come under my care in the past few years, first because of their comparative rarity and second because of the ease with which the latter case was handled as compared to the former due to the improvement in technic which a very short time has brought to our aid.

R. C., aged 5 years, was brought to me in 1905. He was apparently in perfect health, but had suffered for years with "croup," hoarseness and increasing dyspnea. The family history was negative; both parents were healthy; he was an only child. The attacks of croup which he had were becoming more severe and during them he would only get his breath with the greatest difficulty. The hoarseness, which was marked, was becoming worse, so the voice was only a whisper, and at times even failed altogether. Examination showed a well-nourished child with no abnormality except the condition to be described in the larynx. This was filled with a papillomatous growth of a cauliflower nature somewhat pale, seedy, appearance, friable, which grew from both cords and the commissure. There remained only a small, irregular chink through which the child breathed. Three methods of procedure were carefully considered. Laryngotomy, or opening of the larynx externally and removal of the growths was rejected because of the probability of the subsequent return of the neoplasm.

Tracheotomy was not advised because that could always be done as a last necessity.

Removal of the growth through the mouth with laryngeal mirror and forceps presented great difficulty on account of the age of the child. Direct removal of growths through the Killian tubes had hardly been more than attempted at that time.

The condition of the child demanded relief; he was in constant danger of asphyxiation. Naturally I turned toward the most simple method, i. e.: removal through the mouth with forceps under guidance of mirror. After an educative course of some days I was able to remove a large bit of the growth and repeating the sittings was able to send the child home breathing fairly well. He was back again in some few months, however, and the performance had to be repeated. The growths occupied the larynx again as they did subsequently a number of times after being removed as well as I was able.

I was, however, now fairly certain that I could keep the child breathing until an age when the recurrence would not take place. Pathological examination showed the growths simple papillomata. The case at this juncture passed out of my hands as I left for Europe. The subsequent history is instructive. A laryngotomy was performed, the growths thoroughly removed and their base carefully cauterized. The opening of the larynx was successful in every way and healing was uneventful. However, the growths very quickly returned and then a tracheotomy was done. I saw him about a year later and he was in perfect health but wearing the tracheotomy tube.

The second case is that of a girl aged 14, also from one of the interior towns, being referred to me by Dr. Gould of Sonora. She came in September, 1911. Family history negative; again an only child. The duration of the trouble somewhat indefinitely given, but difficulty in breathing increasing gradually was becoming quite distressing. Complete loss of voice except for whispered sounds. Examination showed a healthy, normal child well developed but slightly anemic. The larynx showed the only abnormality containing several wart-like growths, mostly from the right vocal cord and anterior commissure. They were typically papillomata in appearance. Profiting by my experience with case 1, I began to train her for removal with forceps and mirror, but after a month of faithful daily practice I was unable to get her to hold still. I then gave her an anesthetic and with Killian laryngeal spatula fitted to the Brunnings handle and with the Brunnings forceps I removed the growth quickly, easily and cleanly. There was practically no bleeding, adrenaline and cocain having been sprayed directly on the growth and cords. The growth was a typical papilloma. When the patient emerged from the anesthetic she could produce a true voice sound but the following few days she remained in my care she was still whispering, due to the swelling and edema, possibly, though this was inconsiderable. There certainly was some change in the cords themselves, they were not normal in appearance and this condition may be associated with such growth though I find no reference to it in the literature at hand. Dr. Graham kindly assisted me at the operation. In this case the removal was accomplished with certainty and ease. I feel that the child can be saved more mutilating operations even though repeated removal of the growths through the tube be necessary.

The cause of these growths is not known. Irritation, that cause of hypertrophy of tissue, would seem to play no part in some cases as such growths have been demonstrated present at birth. The growths usually have their location on the true cords at the anterior ends and commissure. Rarely in the arytenoid region. The symptoms are interference with voice and respiration and general impairment of health such as the latter would suggest. The frequency of these recurring papillomatous growths in children is difficult to ascertain. "In a period of 10 years in the clinic of Dr. Chappell at the Manhattan Eye, Ear and Throat there was only one case. In another clinic in the same institution there were two cases in the same period." "Clark reports 12 cases in the Massachusetts hospital in the examination of 12,623 children under 14 years of age." "In 300 tumors of the larynx reported by Favel 206 were

* Read before the California Academy of Medicine, Nov. 27th, 1911.

papillomatous. Of this number only nine were in children under 15 years."

The growths possess the same characteristic to a certain extent as warts on children's hands and disappear at a certain age some time about puberty. Also are easily transplanted from one part of the larynx to another. Wherever a bit sticks there it has a tendency to flourish. The treatment is unsatisfactory. No drugs or local astringents have been of any use. Immediate tracheotomy has been argued by some because the stopping of the passage of the air might lead to the disappearance of the growth. In the hands of some this has proven satisfactory; however, there are cases on record where there has been recurrence after the wearing of the tracheotomy tube also a case where a tracheotomy tube had been worn for 20 years without disappearance of the growth. Tracheotomy may be necessarily resorted to where other methods do not avail. Laryngotomy is a method that has been employed in many cases and has its champions. Personally I feel that it is a method to be absolutely condemned under practically all circumstances. The fact that there are cases on record when it has been repeated 6 or more times and one case where it was performed 17 times in 2 years is sufficient to make it unwarrantable, if we consider the resulting cicatricial tissue.

Removal with the forceps and mirror is the ideal procedure, but not always possible.

The use of Killian's tubes or wider laryngeal spatula gives us a means of dealing, one would think, with most cases. However, considerable experience and more statistics are necessary to give this method its true worth.

In my opinion recurrent multiple papillomata should be handled in the following manner. The growth is to be removed by the mirror and forceps where this can be done and the treatment repeated just as often as necessary to give respiratory room. The voice is a secondary consideration. Where it is impossible to train the patient and I think considerable patience should be employed, the child is to be anesthetized and the growths removed through Killian's spatula or tube.

In case of any possibility of asphyxiation, tracheotomy should be performed, but after the crisis is past, I think the child should be anesthetized and the growths removed in one or other of the before mentioned ways and as soon as good space for breathing is established the tracheotomy tube be taken out.

Discussion.

Dr. Harry M. Sherman: Some years ago I was interested with Dr. Black in a case of papillomata of the larynx and in some ways the description which Dr. Sewall gave of his first case fits this in that a laryngotomy was done and the growth rmeoved; later it returned and the larynx was opened a second time and the growth again removed, and in spite of our efforts to keep the tracheotomy tube out we had to put it in, and I am certain that the child is still wearing the tracheotomy tube; this took place some years ago in the old Waldeck Hospital on Jones street. In this case it was exceedingly difficult to pick up and remove the papillomatous tissues; sometimes it was not easy to say what was papillomatous material and what was normal membrane, and the operation was itself, even with the larynx wide open, a disappointment. I think I may speak for Dr. Black in that. How it would be possible with reflected light to pick up and remove all the growth is difficult for me to understand. To do that a man must be a master of technic. In papillomata of the hands salicylic acid is frequently used and Dr. Black tried to make applications of salicylic acid in the larynx, but without result. I had hoped that we might get possession of the case again, but we have not done so, and I suppose that the child will go on wearing the tracheotomy tube for some time, as Dr. Sewall relates they are in the habit of doing.

Dr. E. C. Sewall: I think this must have been the same case of which Dr. Sherman has just spoken. These cases, as I said, need more experience and more statistics before we will be able to say we can remove these growths in all cases through the Killian method, and the fact that Dr. Sherman has opened the larynx externally in this particular case and has seen the difficulties of removing these growths, makes such a possibility doubtful.

SELECTED CHAPTERS IN THE STUDY OF SPEECH DISTURBANCES. NO. 2.—THE RESPONSIBILITY OF THE GENERAL PRACTITIONER TO THE CHILD WITH A SPEECH DEFECT, WITH SUGGESTIONS AS TO PROPHYLACTICS.*

By HENRY HORN, M. D., San Francisco.

It is beginning to be believed that the day of the general practitioner is departing and that the specialist is usurping the throne of the old family physician. No better refutation of this fact is needed than to observe the rapacious appetite of the general practitioner for special knowledge. It is the specialist who is being forced back into the ranks of the generalist by the tremendous border-line studies that are having a vast influence on his own narrow specialty.

This then is my excuse for introducing to the general practitioner what at first sight appears to be a special side of a special subject, and when it can be proven that 50% of all cases of speech defects are easily preventable, could the general physician, the teachers and the parents but have an elementary idea of speech prophylactics, it would seem that a campaign of education along these lines is surely needed.

The German Government have already, with their wonderful foresight in preventing anything which will later unfavorably influence the earning capacity of their citizens, taken measures to prevent this evil, but we have neither as a nation, as a state, or as a city, done anything in the way of preventive measures. The child with a speech defect, be it stuttering, stammering or lisping, be it word deafness or even a slight degree of weak-mindedness, enters our first grade without an examination of any kind and takes his chances with the normal child,—and with what result? He remains behind his class on an average of two years, and is two years longer a burden on the taxpayers; and, incidentally, is much more poorly fitted for his work, whatever it may eventually be. One per cent. and possibly more of the school children of San Francisco stutter; this means that over 400 of our children are stutterers, and that 10% or 4200 have some other form of speech defect. I give these figures with perfect confidence because it is the

* Read by invitation of the Alameda County Medical Society, November 15, 1910.

proportion of the stutterers in the German schools, and, strange to say, is exactly the percentage worked out in some of the Eastern cities.

These children are backward children, backward to exactly that extent that they cannot keep up with their classes. A study and an understanding of some of the general principles of speech defects will enable us to understand this backwardness and to prognosticate the outcome. Every child has inherent capabilities; the normal child develops his without special help, the backward child must be studied as an entity. Of all the accessories to the development of the mentally weak, speech is more important than any other of the special senses and it is the one that we can most easily manufacture for him.

Before specifically studying the subject of prophylaxis, I wish to say a few words as to the general etiology of speech defects. We have here no exception to the general rule that, given the causal elements, the treatment and cure is made very much easier. The empirical treatment of speech defects as carried on by hordes of advertising charlatans and others who have a superficial but no scientific knowledge of the subject may result in some permanent cures, but for the most part in only temporary ones. We have 300,000 stutterers in the United States. A fourth of them would recover of themselves without treatment, and this fourth is the percentage that makes the business of the guarantee cure specialist possible.

In this paper I will confine myself to but two forms of speech defects, so that what I am going to say will deal principally with the stutterer and the stammerer.

The clinical features of each case are so different that a definite typical type is hard to describe. The etiology of the trouble is equally complex. The temperament of the child is one of the principal predisposing causes. A phlegmatic child very seldom stutters; the picture is always of an easily excited and nervous individual.

The nervous temperament may be inherited from the parents. The direct inheritance of stuttering itself is very seldom, in fact some writers believe that it does not take place. This view is a bit radical and not supported by cases which have been reported by both Gutzmann and Cohn.

It is a common belief that weak-mindedness is a potent cause of stuttering. Such is not the case; in fact, the stutterer is usually up to the average or a little better than the average child. It is not on account of their stupidity that they are always two years behind the normal child, but because their physical infirmities make it impossible for them to keep up. The complete imbecile does not speak at all, the half imbecile stammers, but we very seldom indeed find a stutterer among them. In the Dalldorf Institute for Idiots, among 224 children 36% stammered, but only 7 children or 3% stuttered.

In contradistinction to these predisposing causes which we have just mentioned we have causes which depend upon the environment and which are to be spoken of later. We will show that during the school period the number of stutterers is almost tripled. At the time of the second dentition and at puberty the percentage takes a sudden leap upward.

The same thing applies to the time of puberty. Here we are apt to find stuttering developed where it was never before ever suspected. It is a time usually when the child is studying hard. In our American life, on account of social conditions, the boy begins to go out to parties and dances. His day is all too short and his hours of sleep are cut down. The nervous system is in a more or less unstable condition and it is not to be wondered at if the previous tendency to nervous disquiet is accentuated and we have a stutterer develop as a result.

We must never forget that when the child enters school at the age of six he may not be a stutterer in the ordinary sense of the term, but he will have a tiny tendency that way that the vigilant teacher will recognize as a slight, a very slight, deviation from the normal either in the pronunciation of the words, in a slight hesitation over certain words or in a slight embarrassment in speaking. Here is where the teacher, if he could but have his attention called to this subject, could be of inestimable value to the child and to his future life. By the closest observation, with some sort of an idea of what to look for, he would be able to recognize preliminary symptoms such as beginning changes in the breathing, repetition of initial vowels or consonants, etc., even sooner than the child's parents. In school the environmental conditions are entirely different from those at home. Here the child is ever afraid of the shame

(Continued in February.)

MECHANICAL EFFICIENCY.*

By JAMES T. WATKINS, M. D., San Francisco.

The purpose of the group of lectures of which this is one is to give you some insight into the art, or as it is fast becoming, the science of right living; right living especially as it applies to yourselves and to your charges. In my own lecture I shall briefly direct your attention, first, to what we have come to regard as the state of maximum efficiency of the human body. I shall then dwell upon conditions which are essential to this state of well being. Finally, I shall discuss some of the commoner causes of physical inefficiency. Such a study is peculiarly the function of that branch of the healing art called orthopedic surgery. While the latter used to be defined as that specialty which deals with the prevention and cure of deformities, to-day its scope has become broadened till it might properly be described as "Scientific Management" applied to the human body. To certain aspects of this subject, it is my privilege at this time to direct your attention.

More than anything else the human organism resembles a delicately balanced machine, which is called upon to perform work whose character varies in inconceivably many ways and degrees. Work of the higher mental processes, work of the viscera, work of the muscles, has to be performed under constantly varying conditions and constantly changing speeds.

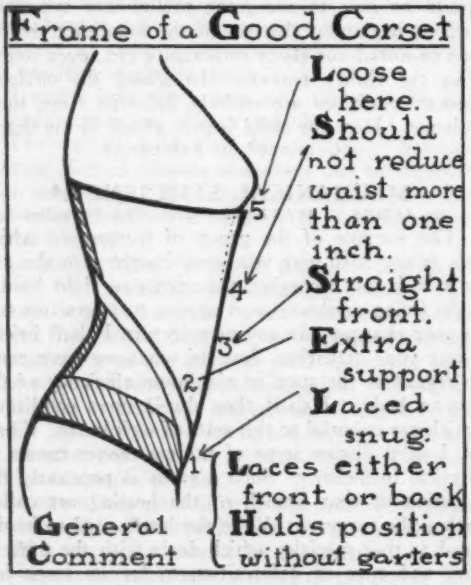
When the several parts are working rightly, there is a minimum of friction, and the efficiency of the individual is at its maximum. We call this condition perfect health. Any departure from this state of correlation, increases strain or friction, wastes energy and, by just so much, lessens efficiency. No

* An address on Orthopedic Surgery, delivered before the Teachers of the San Francisco Public Schools.

one part can be strained without affecting the whole.

For esthetic reasons the posture of selection in the upright position has long been recognized as that in which the individual, without standing on tip toe, can make himself as tall as possible. Head erect, chin in, shoulders thrown back, chest high, abdomen flat, spine slightly concave forward in the region of the thorax and slightly concave backward in the lumbar region; the pelvis being tilted forward so that its axis makes an angle of 60 degrees with the horizon.

A broader comprehension of anatomy and physiology has now taught us that this is also the attitude of greatest efficiency. In this position, the normal individual is able to stand with the least muscular strain, and from it he is able to move in any direction with the least muscular effort. Speaking more specifically, not only the muscle groups which dominate the head, but those which attach the arm to the body, are under slight but not fatiguing tension; the same thing being equally true of those controlling the trunk and lower limbs. Raising the chest has deepened it; thereby giving more room for the expansion of the lungs and movements of the heart. At the level of the third lumbar vertebra—a little above that of the umbilicus—the abdominal cavity is so narrow from before backward that, in this plane, it scarcely constitutes more than one-third of the thickness of the body. From here it slopes rapidly upward and backward, increasing in all diameters. Below this level the cavity is small, and is filled up with loose folds of the small intestine. The sharp inclination backward of the pelvis causes the upper end of the sacrum and its superimposed muscles to form a shelf which shields the pelvic contents from the pressure of the viscera above.



There is not space here to detail the mutual relations of all the abdominal organs; it must suffice to say that *when the body is erect* the various viscera rest upon ledges or shelves, formed, for the most part, by portions of the abdominal walls; and what downward thrust they exert is received by the lower portion of the anterior abdominal wall. This last fact must make clear to one how important is the need of a firm abdominal musculature, how harmful whatever may tend to weaken the abdominal muscles.

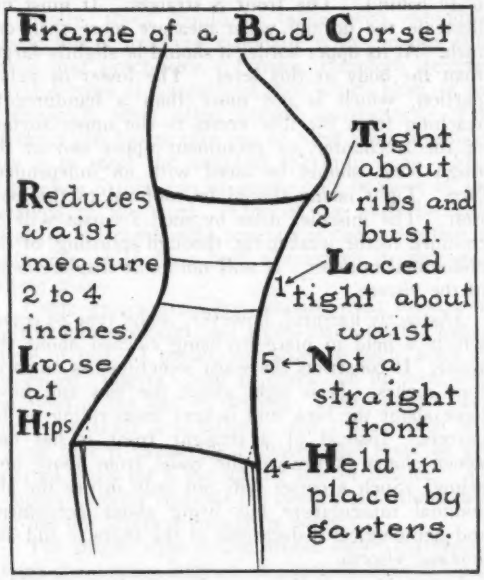
My description would be incomplete did I not direct your attention to the mechanism by which we stand without muscular strain. Normally when we stand erect the leg rotates outward through a vertical axis on the foot partially locking the ankle joint; and at the same time the thigh rotates inward on the leg locking the knee joint. The center of gravity of the trunk lies behind a line connecting the hip joints; the consequent tendency of the trunk to rotate backward about this axis causes the heads of the thigh bones to be crowded against the strong Y ligaments which form the anterior boundaries of these joints. While a slight physiological tension of the muscles surrounding all of these joints is present, nothing like muscle strain is felt. If on the other hand because of any condition like for instance pronated foot, which is the first stage of "flatfoot," the locking at ankle, knee and hip does not occur, the leg must be held erect upon the foot, the thigh upon the leg, and the trunk upon the thigh, by the exertion of undue muscular force. And as a consequence of this strain, we commonly have pains referred either to the foot, the calf, the posterior and outer side of the thigh, or to the back. I shall discuss the causation of distortions of the foot more fully later.

The causes of deviations from the normal posture of maximum efficiency are to be seen in defects of many organs. Vicious postures of the head may be due to such congenital causes as wry neck, or to defects in the shapes of the joints of the occipital bone with the atlas, the vertebra which supports the head. Occasionally there may be a paralysis of some of the muscles controlling it. The most frequent causes, except muscular weakness, are defects of vision, especially astigmatism. Occasionally defects of hearing are responsible.

Deformities are either congenital or acquired. The former are comparatively rare. Their interest, from the point of view of the eugenist, lies in the fact that they are likely to be reproduced in at least some of the patient's offspring. Acquired deformities, on the other hand, hardly ever reappear in the children.

In thinking of deformities, especially of those which are not the result of injuries, you must remember that they usually represent the extreme of some normal motion. For example, each of us can voluntarily cause his foot to assume the turned-in position which we recognize as "clubfoot." The main difference between ourselves at birth and a clubfooted baby is that we can cause our feet to recede from the clubfoot position and he can not. If this baby now proceeds to use his foot while it is in this distorted position the bones will undergo definite changes in shape and size, the result being a permanent deformity. This brings me to the enunciation of a law, viz., that *deformity is the result of improper function.* If you should fix my foot in the clubfoot position and require me to walk on it that way for some months, as a result of this improper function, I would have a permanent deformity, a true clubfoot.

Spinal deformities are congenital or acquired. Sometimes one of the vertebræ is incomplete. Instead of being a cube, a vertebra may be triangular in shape, one-half the body being lacking. In that event, all the vertebræ above it deviate from the vertical, and in trying to return to it, form one other of the varieties of spinal curvature. *Usually* spinal curvature is acquired. Because of defective teeth, for example, a child has poor digestion. This, in turn, produces, among other evidence of malnutrition, weak muscles. These tire easily—especially under the strain of postures induced by ill-fitting schoolroom furniture—and children no longer sit up straight but slouch forward, hanging, as it were, on their ligaments. Now, if I bend forward and to the side, my spine will assume a certain posture which is the extreme of normal motion in these



directions. If I maintain this posture for a sufficiently long time, a portion of the spine loses its mobility and becomes fixed. When I attempt to straighten up the fixed portion will remain bent, even though the portions of the spine above and below it do not, and I shall present one form of that condition which we recognize as spinal curvature. That is, it represents the extremes of two normally present motions which, in the affected segment of the spine, have become fixed. I may add that spinal curvature cannot occur except in flexion and side bending.

It at once becomes manifest as our duty to require our charges to maintain the erect posture at all times. It is no less manifestly our duty to make it possible for them to sit up straight by giving them seats and desks at which they can sit erect without strain. Large men always look and feel uncomfortable on small chairs, and small men get lost in big ones, but it has not occurred to our predecessors that large and small children might do the same thing. That is, we standardized our schoolroom furniture without being able to standardize our children. I shall never forget the backaches I had thirty years ago, down in the old Washington Grammar School.

Perverted ideas of the esthetic in matters relating to personal adornment are responsible for by far the greatest number of bodily distortions; though some physical defects are the consequence of theories of dress based upon mistaken ideas of anatomy. As an example of the second group, I would recall to you the fallacy that a growing child's clothes should hang from the shoulders. All the varieties of ready-made children's waists are designed with this idea in mind. Yet if you will look for an instant at the skeleton of the shoulder girdle you will recognize that this contention must be erroneous. For its only bony attachment to the trunk is at the inner end of the clavicle, or collarbone. Elsewhere it is attached loosely by muscles. Further the ribs upon which the scapula, or shoulder-blade, rests slope downward and forward so steeply that any pull or thrust upon the point of the shoulder must cause it to slip downward and forward to assume the posture which we recognize as "round shoulders"; while the posterior edge of the shoulder-blade projects backward as a sort of angel's wing.

You will recall that a Chinaman can carry all day long two great baskets slung on the ends of a pole—baskets so heavy that most of us could not lift them. You will further recall that he does *not* balance this pole on the *end* of his shoulder: on the contrary, he centers it as nearly as possible on the spine, through the short ribs at the root of his neck. Centuries of drudgery have taught him what a study of anatomy will teach you, namely, that weights, including that of clothes, may be supported here, at the root of the neck, with the least disturbance to the poise of the individual.

When I was a student of medicine a strange mistake had crept into the text-books on physiology as a consequence of the misinterpretation of observations made on persons who were the subjects of certain dress distortions. I was taught that the respiration of men was essentially different from that of women. Outline illustrations were pictured showing that masculine respiration was essentially abdominal in type and caused by the rise and fall of the diaphragm, whereas that of women was thoracic and due to the ascent and descent of the ribs. We were told to wonder at the wisdom of Mother Nature. She made a woman breathe above the waist because it would not do to disturb the abdominal organs of an expecting mother, whereas a man was permitted to breathe after the manner of the lower animals.

Just as I was at the height of my admiration for Mother Nature's methods, along came one Kellogg. With an instrument called a sphygmograph, he took tracings which showed conclusively that Indian and Oriental women, expecting mothers as well as maidens, breathed exactly as men did; that men, when put into corsets, developed a thoracic type of breathing identical with that of women; and, finally, that women who had been addicted to corsets, but had broken off this habit, acquired a type of respiration more nearly abdominal than thoracic.

The corset is an institution of too venerable an antiquity for me lightly to speak disrespectfully of it. Nor would I venture to ask any one of my

hearers who might perhaps have acquired the habit in early youth to disregard the fiat of convention by discarding it now. Further, I am prepared to agree that some corsets are very much more injurious than other corsets. But I would lay before you certain facts, and to your inevitable deductions I would add some of my own based upon professional experience.

We know that when one is confined to bed from any cause, one's muscles become quickly and progressively weakened. We know that when an arm, for instance, is confined in a plaster cast it "withers," as the saying is, that is, it atrophies. Further, and conversely, we know that the development of a part implies its use and some proper exertion in its use.

Primarily, corsets were hammered out of iron by the castle armorer, and worn with more fortitude than wisdom by the chatelaine for their cosmetic effect. They emphasized the fact, so to speak, that women were not men—which was the most that was demanded of their wearers in those days. To-day they constitute a support for the lower thoracic and for the abdominal walls and, besides impeding the descent of the diaphragm—hence the thoracic respiration before mentioned—they splint and consequently must and do weaken the abdominal musculature. But we saw a while back how absolutely essential to scientific management of the body was a vigorous set of abdominal muscles. In this way a corset may be said to make directly for functional inefficiency on the part of the wearer. When I was a student in Europe, I recall seeing women who worked all day in the fields and yet other women who, as hodcarriers, climbed up and down ladders for four and five stories all day long, carrying loads of bricks or mortar. In Japan young girls coal the great ocean-going steamships. Between them all they refute absolutely the idea of woman's physical inferiority—but these women do not wear corsets. It is a matter for recurrent comment among medical men with what relative ease barbarian women give birth to their young. No small part of the distress experienced by their civilized sisters may be attributed to the fact that, through weakening of their abdominal walls by corset splinting, their expelling power has become largely dissipated.

Finally, I wish to remind you that while men occasionally come to the operating-table, it is upon women that the abdominal surgeons fatten and grow rich. How often do you hear of a man having a floating kidney, or an enteroptosis, as sinking down of the abdominal organs is called? On the other hand, are you not forever hearing of women who have them? I am. And why is this? Is it not because the abdominal walls of women have been relaxed and rendered mechanically inefficient—have, like the arm in the plaster of paris cast, become *withered* by the compression and support of the corset? Why, if abdominal surgeons had a spark of appreciation in them, they would erect a monument to their true and tried friend, the ordinary corset!

Now, it is not for you nor for me to discard our defective dress. In us the mischief has been done. Already our organs either float or sink. I doubt if most of us could get along without these things. Ephraim is indeed wedded to his idols! Nevertheless, we should frankly and openly bear witness to the errors that we have made ourselves—or that our parents have made for us—so that those who come after us may profit by our sad experience. If you can only succeed in persuading adolescent girls that to put on corsets does not transform them into women nor render them more adorable, but may indeed be the beginning of things which make for invalidism, you will have done much toward increasing the happiness of the next generation of women and, at the same time, irreparable injury to the next generation of doctors.

I said a moment ago that some corsets were much more injurious than others. The least harmful type of corset is that which takes its support from the pelvis and can keep its place without the aid of garters or straps. It has a strong upright upon each side of the spine which follows the curves of the body behind. The front is straight. It must not decrease the normal waist measure more than one inch. At its upper border it should be slightly larger than the body at this level. The lower or pelvic portion, which is not more than a handbreadth reaching from the iliac crests to the upper surface of the trochanter, or prominent upper end of the thigh bone, should be laced with an independent lace. Tight lacing should be confined to this portion. The mischief done by such a corset will be confined to the weakening, through splinting, of the abdominal muscles. It will not cause displacements of the viscera.

Distinctly harmful, however, is the type of corset which is held in place by being cinched about the waist. It constricts the waist sometimes as much as four inches. It is tight about the ribs and bust, loose about the hips, and is kept from riding up by garters. Instead of a straight front it has one which slopes in toward the waist from above and below. Such a corset will not only injure the abdominal musculature but bring about permanent and pathological dislocations of the thoracic and abdominal viscera.

It would seem that man began to decorate his feet as soon as he found that their unimpeded use was not essential to the struggle for existence. The Egyptian statuary shows normal feet, but we know that it was required to conform to a strict convention. We also know, however, that the Egyptians wore pointed shoes. The deduction is inevitable that their feet must have followed the moulds in which they were encased and must have, therefore, been correspondingly deformed. No people have ever studied dress with a view both to efficiency and also to preserving the symmetries of the human form, as did the Greeks. Yet even the Hermes of Praxiteles shows an abnormal deviation outward of the four outer toes, caused by the thong of the sandal which passed between the second and great toes. From the Dark Ages civilization emerged saddled with all manner of dress deformities, some of which, like our old friend the corset, obtain in modified form to the present day. You will recall that Scott, in his immortal description of the Field of Ashby de la Zouche, says that Prince John wore shoes, whose pointed toes were attached to his knees by gold chains. "The Golden Lilies," as Chinese poets have called the bound feet of their women, are, it

appears, a matter of no great antiquity. So much for evidence that the tendency to decorate feet is as universal as it is ancient.

Now again remember, I am not asking *you* to wear square-toed shoes, nor to discard high heels, nor to do anything except to seek out that last in which your individual feet find comfort and act well. The time when your feet and mine could have been made anatomically perfect is past. By proper orthopedic treatment they can be relieved of disabilities, but anatomically perfect they cannot ever become. Dr. Blodgett, an orthopedic surgeon of Boston, reported that among one thousand persons who had presented themselves with defective feet, all, or almost all, had been relieved of their disabilities and not in one instance had a defective foot been made into a normal foot. Distorted feet cannot be cured, they must be prevented.

Ideally shoes should be made over individual lasts; this is however especially with growing children, not practicable. I have therefore selected several types of commercial shoe which have, in my experience, most often proved satisfactory. Frequently one has to take one of these shoes and modify it to meet the needs of the individual. This, like plate fitting, can of course only be done by one trained to the work. One of the most lucrative features of orthopedic practice is the correction of ailments which have been aggravated by shoe-store fitted plates.

Little growing children should wear loose, non-shrinkable stockings and shoes made on the sandal type of last. I prefer low shoes to high, since the so-called "uppers" tend to check the up and down motions of the foot on the leg. That "uppers" support the ankle is a fallacy. An ankle which is so weak that it cannot be balanced and must be supported, calls for a bar up the side of the leg. The "upper" merely conceals the distortion in these cases. It has not leverage enough to correct it.

The proper shoe is that whose insole corresponds with the outline imprint on paper of the stockinged foot, but has a somewhat longer toe. Its inner border should be higher than its outer, just as the inner border of the foot is higher than its outer border. The joints where side to side motions are made occur rather more than three-fifths of the way from the toe to the heel; therefore the shank of the shoe should be short. A long narrow shank would splint the foot and side to side motions would be impossible. The heel should be broad, advanced well under the instep, and high or low according to the character of the individual foot. Of course, in the really normal foot no heel is needed; but we do not get really normal feet. This is neither the time nor the place for me to enter into an exhaustive discussion of defective feet.

Here and now I can only tell you that every child who "toes in" is either wearing too short a shoe or is trying to save his arches by contracting the muscles at the inner sides of his feet; every child who "runs over" his or her shoes, who shifts from one foot to the other, who stands with the legs far apart, or with the knees locked, who persistently leans up against the furniture during recitation, who regularly walks with a shuffling, springless gait, consciously or unconsciously, is a sufferer from weak feet, and is in need of proper medical attention. Weak feet are not always manifested by symptoms directly referable to themselves. Lately I submitted to the Academy of Medicine a report on the following unusual cases:

One patient, where the end of the back, the so-called os coccyx, had been removed for symptoms typical of disease of that region, "coccygodynia" it is called;

One lady who had been subjected to capital operations for backache;

One man suffering with painful knees;

Two young women who had been supposed to have hip trouble; and

Two men who were said to have disease of the spine.

All of these patients were shown to have defective feet, and though the feet themselves had at no time presented subjective symptoms, treatment of this foot condition gave relief from the other and apparently dissociated symptoms. I merely cite these cases to show you how important a matter really is the hygiene of the feet.

I think that on reflection my purpose in this paper will be apparent to you. The whole trend of modern thought is toward economy. Economy of natural resources, economy of time, economy of labor. "Scientific Management" it has come to be called. Here I have attempted to show you as briefly as might be, how scientific management applied to the employment of that most complex of all machines, the human body, and to suggest to you some of the kinds of ways in which its usefulness might be hampered by unscientific management. Against these you should unceasingly be upon your guard.

To those who will apply the principles suggested, a new field of interesting speculation and observation will open up. The study of eugenics is as yet in its infancy. Many problems, which have not here been touched upon, will spring up to perplex you. But in seeking to solve them, you will yourselves attain to a higher intellectual level.

Remember always that you are, yourself, not an imitator, but an original observer, and your own original recorded observations in this field of endeavor will add something to the sum of human knowledge, will accomplish somewhat to the uplift and betterment of the race. For to no one who seeks it humbly is the truth ever wholly hid.

350 Post Street.

A CASE OF BROWN-SEQUARD'S PARALYSIS FOLLOWING A STAB WOUND OF THE BACK.*

By W. W. RICHARDSON, M. D., Los Angeles.

Case—R,—Age 33, Male, Single—Mexican.

Diagnosis: Hemilesio medullae spinalis.

History: On the evening of Oct. 1, 1911, he was stabbed repeatedly in the back with a knife. He fell to the ground and has not walked since. He says that he noticed shortly after the injury an

* Read before the Los Angeles County Medical Association, November 17, 1911, with presentation of the patient.

inability to move the left lower extremity. He received first aid at the Receiving Hospital where no paralysis was noted. Upon the following day he was admitted to the Los Angeles County Hospital in the service of Dr. J. J. Van Kaathoven, who kindly permitted me to report the case. Upon the day of admission to the hospital on Oct. 2nd, Dr. Hart, interne, noted a paralysis of the left lower extremity and thinks that at that time it was complete, but of this he is not positive. He also noticed a loss of touch sensation in the right lower extremity. I saw him first on Oct. 3d, and a careful examination at that time showed several stab wounds of the posterior thoracic wall, one of which upon the right side penetrated the lung, as evidenced by emphysema cutis. About on the level of the eleventh thoracic spine and very slightly to the right of the median line was a wound about one-half inch long.

Neurological Examination: Left. There was loss of voluntary motion in the left lower extremity with the exception of feeble movements of the foot and toes. He could very feebly adduct the thigh and upon attempting movements the adductor muscles could be seen to contract slightly. Upon attempting to extend the leg upon the thigh slight contraction of the M. vastus lateralis followed but no movement of the leg and he could not maintain the extended position when the leg was so placed. There was absence of all deep reflexes. The superficial reflexes were not noted except the plantar which was absent. Sensation upon the left side was normal. No hyperesthesia was noted. (No interpreter being present this is not positive.) He correctly recognized the position of the extremity and passive movements were correctly interpreted. The left foot and leg felt distinctly warmer than the right to touch with the hand.

Right. Voluntary movement in the right lower extremity was normal. Upon testing sensation it was found that upon the right side below a transverse line drawn about three fingers' breadth below the tip of the ensiform, he could not feel the light touch of a cotton ball, that he was totally insensible to a pin prick and that he could not distinguish between hot and cold test tubes. The sense of position and muscle sense were present and he could recognize a firm touch. (The loss of tactile and pain sense were sharply defined at the median line of the body even to the penis and scrotum.) The control of bladder and rectum were seriously interfered with but not lost altogether as during his waking hours he had control of them.

Oct. 4th. On this day examination made with the aid of an interpreter was more satisfactory. It was found that upon the left side the paralysis had diminished. The foot could be moved more freely both in dorsal and plantar flexion. He could feebly extend the leg upon the thigh and hold it momentarily in extension. These movements, however, were quickly exhausted. There was still absence of the deep reflexes. It was now positively ascertained that upon the left side slight hyperesthesia existed, especially over the abdomen at the upper border of the lesion. Light touch was described as a burning feeling. Upon the right side, light touch with the finger and cotton ball were readily distinguished over the entire area. Analgesia, however, still existed. He could not distinguish between a thrust with a sharp pin and a thrust with the finger, both being distinctly felt, indicating retention of pressure sense. Temperature sense was wholly absent, the touch of the test tubes being readily recognized. The deep reflexes appeared normal. The superficial reflexes were not tested with the exception of the plantar which was absent upon both sides.

On Oct. 6th there was some, but slight, improvement in motility. The cremaster reflex was found to be absent upon the left side but present upon the right. Otherwise the condition was practically unchanged. The function of bladder and rectum have returned to normal.

On Oct. 9th the improvement in motility had continued. The patellar reflex had returned upon the left side but was feeble. There was no longer increased temperature to touch of the left side. Otherwise condition was unchanged. At present, Nov. 17, we find that he has recovered to a great extent voluntary movement upon the left side so that practically only muscular weakness remains. No ataxia is evident. The hyperesthesia has disappeared. There is exaggeration of the left patellar reflex. Upon the right side there still exists total analgesia and loss of temperature sense.

In 1858 Brown-Sequard described the symptom-complex resulting from a hemilesion of the cord, and a mass of experimental and clinical evidence since that time has resulted in a confirmation of his findings. It is true that the experimental evidence has not always been uniform, nor always in accord with the clinical evidence in man, and yet an analysis of the mass of evidence at hand, by the master mind of Kocher, has led him to the conclusion that in man the presence of the following group of symptoms is diagnostic of a hemilesion of the cord.

Upon the Injured Side:

1. Motor paralysis—appearing immediately in its greatest intensity but as a rule diminishing in the course of days and weeks, until only muscular weakness remains, excepting those muscles whose motor cells are directly destroyed.

2. Atrophy from inactivity of the muscles without loss of farradic irritability and without reaction of degeneration.

3. Vasomotor paralysis, as indicated by increased temperature of the paralyzed limb. This recovers rapidly as a rule.

4. Hyperesthesia for touch, pain and in many cases for heat and cold. In some cases this hyperesthesia, absent at first, has appeared later with the onset of myelitis.

5. Loss of muscle sense.

6. Increase of the reflexes, especially of the tendon reflexes. This may be preceded by a phase of diminished reflexes, which is frequently so short as to escape observation.

7. Pertaining only to injury of the cervical cord: Paralysis of the oculopupillary and vasoconstrictor sympathetic fibers, as indicated by contraction of the pupil, narrowing of the palpebral fissure, recession and diminished tension of the bulbus.

Upon the Opposite Side to the Injury:

8. Anesthesia—either total to all sensation, touch, pain and temperature, or as is relatively frequent, retention of the sensation to light touch with total analgesia and loss of temperature sense. As a rule the anesthesia improves, as does the hyperesthesia of the other side. The reappearance of touch sensation may precede that of pain sensation and this the temperature sense, either for heat or cold, showing the independence of their paths of conduction.

9. The function of bladder and rectum may be retained or but transitorily affected.

An analysis of our case shows an almost perfect coincidence with the findings as set forth by Kocher. We have exquisitely demonstrated upon the side of the lesion:

1. Paralysis. At the time of neurological examination on the third day, complete with the exception of slight movements of the foot and of the thigh adductors, but showing rapid and progressive improvement until now only muscular weakness remains.

2. Slight muscular atrophy from disuse. The electrical reactions have not been tested but are undoubtedly consistent.

3. Vasomotor paralysis as indicated by increased temperature to the hand, which disappeared within a few days.

4. Hyperesthesia to touch, first noted upon the fourth day but possibly existent before that time. The hyperesthesia was never very marked and seemed to exist for touch alone which was described as a burning sensation. No very evident hyperalgesia was noted.

5. Muscle Sense. No loss of muscle sense could be detected. The position of the limb was always correctly interpreted and all movements readily recognized.

6. Reflexes. The patellar reflex, at first absent, was noted as present on the ninth day and became slightly exaggerated. Ankle clonus never existed. The superficial reflexes have been persistently absent.

7. The lesion in our case being below the cervical segments, no ocular symptoms would be expected.

Upon the Opposite Side:

8. Anesthesia. At the first examination a loss of all sensation even to light touch seemed to exist, but in the absence of an interpreter, this is not positive. Upon the third day the tactile sense was present and sensation to touch and pressure, but there was total loss of pain and temperature sense and this has existed to the present time. Position and muscle sense were present from the first examination.

9. Bladder and Rectum. There was at first retentio urinæ and partial incontinentia alvæ but within a few days these functions had returned to normal.

In the absence of direct demonstration by examination of the cord, but from comparison of the clinical findings in other accepted cases of hemilesions of the cord, I think we are justified in believing that in this case the left half of the cord has been divided with a probable exception of part of its posterior column. (Retention of muscle sense upon the injured side.)

An explanation of the clinical findings in cases of hemilesion leads to very interesting conclusions regarding the physiology of the spinal cord. The appearance of motor paralysis upon the side of the lesion proves that the motor fibers for the most part occupy paths upon the same side as the muscles which they supply. The rapid recovery of motion leads to the conclusion that regeneration of these fibers rapidly occurs or that other paths exist which take over the function of the divided tracts. That the latter conclusion is correct is deduced from the evidence that a descending degeneration of the divided motor tracts is invariably found. Moreover, animal experimentation has shown the very conclusive fact that after recovery of motion following a hemisection, a section upon the opposite side, a few segments higher up, is followed by paraplegia, proving conclusively that the opposite side of the cord had assumed the function of the half first divided as far as its motor fibers are concerned. The existence of these reserve fibers has, moreover, been demonstrated by Edinger. The vasomotor paralysis upon the same side, with its rapid recovery, leads to a like conclusion concerning these fibers. The explanation of the sensory phenomena requires a more complicated reasoning and as each variety of sensory impulse is conveyed by a separate and distinct path, each must be considered separately. The loss of muscle sense for the recognition of position, movement and pressure which occurs upon the same side as the lesion in pure hemisection, indicates that this path likewise runs uncrossed in the cord. From experimental and clinical evidence it appears that the posterior columns those of Goll and Burdach, consist of these fibers. The loss of sensation of pain and of temperature sense upon the side opposite to the lesion, with their retention upon the injured side, indicates the crossing of these fibers shortly after their entrance into the cord and their ascent in paths lying upon the opposite side. That these fibers are distinct is shown by the recovery in some cases of the temperature sense with persistence of the analgesia. The fact of recovery would indicate the existence of reserve fibers upon the opposite side. The explanation of the phenomena of tactile sensation, especially of the hyperesthesia upon the injured side with absence or transitory existence of anesthesia to light touch upon the opposite side, requires a complicated hypothesis. Kocher explains these phenomena upon the existence of both crossed and uncrossed paths for the conduction of tactile sensation. The uncrossed fibers ascend without interruption but the crossed fibers have for the most part indirect conduction, as they arborize about cells in the posterior horns, from which cells a second neuron begins, and after crossing in the anterior commisure, ascends upon the opposite side. These cells of the posterior horn possess the power of summation of impulses. Upon the side of the lesion all of the direct fibers being severed, all sensory impulses must pass through the cells of the posterior horns, which results in their interpreta-

tion as pain, until the conduction is taken over by the crossed fibers which are not interrupted. Upon the side opposite to the lesion these impulses pass undisturbed by way of the uncrossed fibers or suffer temporary disturbances by the severance of the crossed fibers. An explanation certainly ingenious.

SOME MISINTERPRETATIONS IN THE TEACHING OF GROSS ANATOMY.*

By H. O. WHITE, M. D., Los Angeles.

Anatomy in its great outline is a science surprisingly and sufficiently exact. The exceptions are too few to admit of hesitation about what is right and wrong; it is therefore, perhaps, next to mathematics in the precision of its indications, and in the value and certainty of its rules. It is, for these reasons, in every way suitable that in an operation or in the treatment of a disease, where the condition of organs is to be considered, that we shall look with full assurance for what is most common, rather than to hesitate and to halt between two opinions. Since I am sensible of the importance of reflecting upon, and of observing maturely the matters treated of, I have done my best to be accurately informed by repeated dissections and by reference to the best authorities.

The term Anatomy as here employed includes Gross Anatomy only, as is taught at present in every reputable institution of learning. There are numerous instances where anatomical text-books and teachers of Anatomy, to my estimation, interpret some parts of the subject erroneously, incorrectly, thereby conveying an improper understanding of the region in question and unintentionally misleading the student who takes everything for granted.

In attempting to enumerate the various parts or regions erroneously imparted to the student, I wish to state that my conclusions are based on:

First, the teaching by anatomists of this country in at least a dozen of the best medical schools which I personally visited.

Second, the comprehension and interpretation of those regions in question by graduates of reputable medical institutions as taught by their teachers.

I wish nevertheless to be understood at the outset that it is not my intention to criticize older and much abler teachers nor to reflect upon any institution of learning, but in the hope of eliciting a discussion and thereby, perhaps, enlighten our mutual understanding, that this paper is offered for consideration.

Almost from the first day of college life the beginner considers anatomy an uninteresting subject—dry, not easy to master—and is therefore overwhelmed by the magnitude of the task before him and despairs of ever becoming more or less familiar with its details.

Right here I wish to put myself on record by stating that in a good many of our medical schools, even in some that are considered the best, the teaching of gross anatomy is, to my firm belief, in a measure improperly conducted.

Realizing, however, the exactness and importance of the subject, it behooves the teacher as well as the school to afford the student every possible facility for the proper acquisition of a necessary working knowledge on that subject.

It is hardly possible in a paper of this magnitude to point out and discuss every region of the human anatomy which I consider erroneously interpreted, hence the most frequent and perhaps most important ones will claim our attention.

Beginning with the first step in gross anatomy, the student is told of muscles, and he is instructed to study lists of muscles under the different heads of flexors, extensors, supinators, adductors, etc. But how are these lists obtained? Usually from the anatomical method, which consists in dissecting out a muscle on the dead body, freeing it from its connections, but leaving it attached at its origin and insertion. The muscle is then pulled upon by the dissector, and the resultant position of the limb is taken to be the action which the muscle would exercise during life. Or a muscle is seen to have a certain origin and insertion, so that if it contracted it must produce approximation of the two parts. As an illustration of this may be mentioned the Latissimus Dorsi, which from its origin from the lowest three or four ribs and its insertion into the humerus has been looked upon as a muscle of forced inspiration, for it was concluded that if, when the humerus was fixed, the muscle contracted, its only action would be to elevate the ribs.

The student assumes this for granted, and remains contented with such conclusion, as though it were possible for this particular muscle to act by itself.

I am convinced there is no instance in the human body of a movement in which only one muscle takes part, and it would therefore be necessary to know, first, the particular share of the other muscles in the movement, and the manner in which they affect the action of the muscle under consideration.

Because a certain movement can be produced on a joint by traction on the dissected muscle, it does not follow that the muscle must necessarily be used during life for this purpose. I venture to think, however, that although every movement that any given muscle is capable of is undoubtedly produced, yet, as the muscle acts alone, we do not know what the influence of the other muscles may be which also enter into the movement, and also that we do not know whether a muscle which on stimulation gives the movement,—let us say flexion,—is included in the movement of flexion when this is performed as a voluntary act. Such instances in the human body are too numerous to require any further deliberation.

That such are the explanations given to the student by the majority of teachers of anatomy is well known, and, as my objections are based on scientific investigations, I therefore firmly maintain that this part of gross anatomy is erroneously interpreted and imparted to the student. I venture to think that if all the muscles contained in some of these lists contracted, the movement produced would not be the one which was expected, because such lists do not express a combination which has been verified by actual inspection during life.

Even as far back as the eighteenth century the great Winslow remarked: "The experiments made

* Read before the Chicago Anatomical Society at the regular monthly meeting of December, 1910.

on dead bodies by pulling the muscles after they have been raised are very, very fallacious."

And W. W. Keen in one of his addresses in 1887 remarks: "What I wish, therefore, formally to urge upon teachers of anatomy is not that the living model should be used occasionally, but regularly; not as a rarity, but as a constant means of illustrations as much as the cadaver or skeleton."

I sincerely trust that the time will come when the actions of muscles will be taught on the living subject, together with the part which they take in the performance of at least simple movements. The subject of muscular movements alone claimed my attention for the last few years, and I hope in future to be able to show that the actions which are ascribed to some of the muscles, and are so taught to the student, can not be substantiated when put to the true test in the living subject.

In his further anatomical studies the student is told of canals, rings, openings, cavities, etc., etc., in the human body. After a careful search of most anatomical text-books usually employed in our modern schools, only very few make mention of the fact that canals, openings and cavities are in reality, i. e., in the living, not existing. In other words, they are potential. Taking, for instance, the so-called inguinal canal. It is stated that it comprises the space between the external and internal abdominal "rings," as though there were actually such rings, and about half an inch above Poupart's ligament.

Let us examine the veracity of this statement.

Canal is derived from the Latin, Canalis, meaning a channel, trench, conduit, a pipe, if you please, and by these definitions is usually understood a structure of any shape and length, composed of certain material having at least two extremities, whose function it is to contain or convey fluids or solids through its interior, and hence of necessity communicating with two distinct sources.

Is the so-called inguinal canal in reality a channel, a pipe? Is it a structure at all? Does it communicate with the abdominal and scrotal cavities? I venture to think that if it did, every one of us would suffer from hernia in some form, sooner or later.

Assuming, as I do not assume, that it is a canal, what tissue constitutes its walls? Because the spermatic cord is situated between the muscles forming the abdominal wall, that does not entitle the space occupied by the cord to be named canal. We might as well state that the humerus is situated in a canal, because it, too, is surrounded by muscles forming the arm. Or a certain blood vessel, or nerve, passing through a muscle are also situated in canals.

Text-books, as well as teachers of anatomy, with few exceptions, hardly make mention of this fact, and hence the student in his dissections invariably searches for hours in vain for the so-called inguinal canal. As to the external and internal abdominal rings, this is too apparent to every teacher of anatomy that no such thing is in existence, and hence does not necessitate any elaboration. Suffice it, however, to state that no anatomist, to say nothing of the surgeon, can demonstrate efficiently the so-called abdominal rings in the normal human body. It is only in consequence of malinterpretation of the embryology of the descent of the testicle from the abdominal region into the scrotum that such statements are still circulated and adhered to, principally by those whose anatomical knowledge is not based on repeated dissections. Even in the most extensive and complete inguinal herniæ, direct or indirect, the so-called abdominal rings cannot be demonstrated, and the ill-informed surgeon as well as the inexperienced dissector simply create such rings. I made particular investigations in order to corroborate my statement that, with the exception of very few, the average surgeon of to-day does not possess any more than superficial book knowledge in anatomy and a good many very little at that. Seldom do we see a surgeon to-day in the dissecting laboratories for anatomical investigations; hence he adheres to his meager student-day conceptions of anatomy, which enable him only to convey the same misconceptions to his audience.

Erroneous, unfounded anticipation and fear of conveying infection from the dissecting laboratory to the operating room or hospital ward is accepted, in part at least, as sufficient excuse for the surgeon, or even general practitioner, to abstain from the fountain of truth. Properly and scientifically prepared dissecting material of to-day is absolutely inert and may be handled by the most careful surgeon with absolute impunity. I have repeatedly demonstrated this truth to surgeons of wide reputation while teaching at the University of Illinois. How often do we hear to-day of dissecting room infections? In the anatomical laboratory of the University of Illinois for the last twelve years not a single infection was recorded, notwithstanding the fact that students at their laboratory exercises, accidentally or carelessly, receive injuries almost daily, and I am convinced that the same results are obtained in all other well-regulated, modern anatomical laboratories.

In the abdominal region the student is told of a greater and lesser peritoneal cavities, and of abdominal organs being intra and extra peritoneal.

Embryologically the peritoneum is a closed serous sack, and all abdominal organs are formed external to the sack. In consequence of the direction of least resistance, further growth of these organs causes the sack to become indented, and the indentations augmenting proportionally until complete development of the organs is established. In other words, the organs augment in size in a direction inward, into the primitive peritoneal sack, and eventually, when the organs attain the stage of complete development, the abdomen is filled very snugly indeed; so much so that normally at no time can there be found any unoccupied space whatever, unless through a malformation or malposition of an organ in process of development, or in consequence of a subsequent pathological lesion, crowding out, as it were, some organ or organs from their normal position, that a cavity is created.

As stated above, all abdominal organs are developed external of the primitive peritoneal sack, and subsequently through a process of invagination become covered by peritoneum. Since this is true, it follows that it is impossible for any organ to become completely enveloped by peritoneum, or be

situated in the so-called peritoneal cavity. Normally there is no such thing as a peritoneal cavity or intra-peritoneal organ.

Taking, for instance, a loop of small intestine. It is enveloped by peritoneum, but not completely so, since it is attached to the posterior abdominal wall by a mesentery composed necessarily of two layers of peritoneum between which are situated blood vessels, nerves, glands, fat in various quantities and connective tissue. These structures occupy space and therefore prevent the absolute approximation of the two layers of peritoneum, and hence cannot completely envelop the gut. Is it not a fact that if the peritoneal membrane were not so thin, and not so intimately adherent to the organs and parieties, it would be quite possible for one to shell out, as it were, every abdominal organ and inflate again the peritoneal sack to its original shape? If this were possible, it is evident that all abdominal organs would again be found external to the peritoneal sack, proving conclusively that no organ is situated within the sack, and hence cannot be even anticipated intra-peritoneal.

Similar misinterpretations do we find in the so-called plural cavity or sack, in the thorax and conjunctival sack in the orbit of the eye. In both instances the visceral and parietal layers of the respective membranes are so intimately related and so closely approximated that it is impossible, more or less comfortably, or without any difficulty, to introduce into these so-called cavities an object even as thin as tissue paper. Here, too, only when a pathological lesion takes place that a cavity is created in each instance, or on a normal cadaver by a bad dissector. By a cavity we understand a space normal or abnormal not occupied by anything except perhaps air, and that can be filled by fluids or solids as desired. Is there anything in the above mentioned instances corresponding to such a cavity?

In topographical or relational anatomy I find similar misinterpretations. By the relations of an organ or a structure we should include only such organs or structures as are situated in immediate vicinity to the one in question, and if several are so situated, say in front of the one under consideration, it is only that one which is almost in direct contact that we can properly consider in relation to it. As an instance, I will offer the relations of the second and third portions of the subclavian artery. These are situated on the superior surface of the first rib. That the first rib is below and rather at a posterior aspect to the clavicle no one can dispute. Furthermore, to the anterior border of the clavicle the pectoralis major and deltoid muscles are attached and the subclavius beneath the clavicle.

Now the platyzma takes its origin by thin, fibrous bands from the fascia covering the upper part of both pectoralis major and deltoid muscles and its fibers pass over the clavicle obliquely upwards and inwards to be inserted into the subcutaneous tissue of the lower part of the face, blending with the muscles of that region. Since the platyzma is situated in front of the pectoralis major and the subclavian artery on the first rib, it is clear that the vessel is covered not only by this muscle but also by the pectoral fascia, costocoracoid membrane and subclavian muscle. The platyzma is consequently most anterior in the upper pectoral region. How then can the platyzma be considered as a structure in relation with the subclavian artery?

Again, if we interpret this to our students as one of the relations of the subclavian artery, what would be the objection of teaching them also that the umbilicus is in anterior relation to the abdominal aorta? I have examined as many text-books on anatomy as I could possibly obtain, and, with few exceptions, the platyzma is mentioned as one of the relations of the vessel under discussion. I have made careful, repeated dissections of that region, and I have also very carefully investigated the dissections made by my students, and yet fail to see the veracity of that statement. I can only conclude that it is a misinterpretation, unreasonable and confusing to the student.

In my didactic course I invariably point out to my students this as well as all other similar misinterpretations, as I call them. Time and space will not permit me to present in detail all investigations I have made in this respect, but I hope in future to be able to present further results in the field of gross anatomy and I simply offer this paper as an impetus for discussion.

TRANSFUSION IN A CASE OF TYPHOID FEVER.

By RENÉ BINE, M. D., San Francisco.

In his book "Hemorrhage and Transfusion" Crile reports two instances of intestinal hemorrhages complicating typhoid fever where transfusion produced marked improvement. Both patients were remarkably revived, but the hemorrhages recurred and death resulted. Crile has likewise collected ten other cases of typhoid fever with intestinal hemorrhages where transfusion of blood (whole blood 2, defibrinated 4, not stated but probably defibrinated 4) apparently saved five lives. These cases date back to a period of from 1875 to 1886, when direct transfusion was unknown, so that in view of the great rarity of these reports, we feel justified in publishing an account of the following case which presented many interesting features, and in which, we feel, transfusion accomplished all that could be expected of it under the circumstances.

Miss F. C., born 1882, single; nurse.

Family history: M. d. acute t. b. 1885 f. and 4 s. alive and well.

Habits: Irregular hours food. Otherwise negative. Menses regular.

Past history: Pneumonia at 12 years age. Diphtheria, pertussis in childhood. Tonsillitis several times, tonsils removed 1905. Following a period of very hard work in 1908 was quite anemic (Reds 3,100,000 Hg. 70%) and exceedingly nervous, had frequent crying spells, and at this time examination revealed a cardiac murmur (haemic?) and a slight albuminuria, the latter clearing up and the patient gaining in weight under tonic treatment. The patient never returned for examination and except for more or less constipation and spells of nervous exhaustion due to overwork, was free from trouble until this:

Present Illness: Having been on night duty for several weeks and unable to sleep during the day on account of nervousness the patient on December

22, 1910, complained of being "all in," feeling nervous and "weepy" and of a very severe headache. Temperature 99 degrees. By the 24th the temperature had risen to 102 degrees, the area of splenic dullness was distinctly enlarged, rose spots were present, and by the 27th a diazo reaction and a weak Widal reaction were obtained. The patient was in a rather undernourished state, quite nervous and impressed the observer as profoundly toxic.

Course of the Disease: The patient's chief complaint was headache, the pain being so severe as to interfere with her rest and was not relieved by ordinary doses of acetphenetidin. Ice-bags to the head, cold sponges and hexamethylenamine internally were employed to combat the pyrexia and undoubted bacillaemia.

December 25: Temperature ranged from 103 to 104.6, pulse from 104 to 120, respirations 18 to 22. Leucocytes 7800, polys 67%. General chilliness was frequently complained of.

December 26: Temperature 102 to 104.8. Continual nausea, repeated vomiting, frequent chilliness; rectal pains and tenderness partly due to hemorrhoids.

December 27: Temperature 100.8 to 105, pulse 100 to 118. Frequent nausea, chilliness, "feels miserable," headache persists, urine examination negative except for marked diazo.

December 28: Moderately comfortable for a few hours, then chilliness, vomiting twice, considerable nausea, loose bowels and pain in right upper quadrant abdomen. This region is tender, there is marked rigidity, and a definite resistance to palpation. Temperature 101 to 104.6.

December 29: Temperature 101.6 to 104.8. Very restless and nervous. Headache persists. Late in day, nose bleed. Urine as on 27th. Still has abdominal pain.

December 30: Temperature 101.2 to 104. Nausea, vomiting, constipation and distention relieved by 15 cc. castor oil.

December 31: Severe headache and moderate backache persist. Sponges fatigue patient greatly. Nausea present. Abdomen still painful and tender. Gall-bladder can be distinctly felt, descending apparently about 1" below liver, which is quite enlarged. In order to reduce temperature and combat headache, pyramidon prescribed, 10 cc. of a 2% solution every 2 hours. Temperature 101 to 103.4.

January 1st: Gas pains have bothered patient from onset of trouble. Has been subject to them before this illness, as well as to pains in rectum, which are only relieved by low cold water enemas. Vomiting and nausea. 4 p. m. about 120 cc. liquid stool highly colored with blood. 8 p. m., coffee-ground vomitus giving positive reaction to all blood tests. Temperature fell to 100° after bowel hemorrhage but did not rise above 101.2 during remainder of day.

January 2nd: Temp. 100.4 to 103.4. Pulse 100 to 130. Leucocytes 7200. Polys 85%. Cholecystitis still persists. Severe pain in rectum; low cold water enemas insisted on by patient, return highly colored with blood. Urine contains much albumin, many hyaline, granular and epithelial casts, but no blood.

January 3: Temp. 100 to 101.2. Patient getting weaker and is unable to retain but a very small amount of ingested liquids. Headache less since taking pyramidon. Vomited blood; low enema returned bloody.

January 4: Still blood per rectum. Turpentine stupes. Patient quite weak. Vomiting of blood, bright red, also bright red blood in stools and epistaxis. Gums have shown decided tendency to bleed from onset of illness. Temp. 100.2 to 102.2.

January 5: Rectal examination (digital and with proctoscope just inside sphincter) fails to show any source of bleeding. This examination was undertaken to determine if hemorrhoids were responsible for blood in stools. Gelatine fed patient. Pyramidon discontinued in view of a possible influence on hemorrhagic tendency, and hexamethylenamine gr. v. every four hours prescribed. Temp. 101 to 102.6. Pulse 100 to 110. Resp. 20 to 24. Widal quite marked.

January 6: Menses present. 11 a. m. Large bowel movement of almost pure blood; pulse weak, 124. 11:20 a. m. Small bloody stool. Two stools together equal about 500 cc. Morphine hypodermically; coil to abdomen. 3 p. m. severe chill. 6:45 p. m. coffee-ground vomitus. Leucocytes 7000, polys. 60%. Hemoglobin 70%. Calcium chloride enemas. Temp. 103.2 to 103.8. Pulse 112 to 124.

January 7: Temp. 102.4 to 103.6. Less nausea, able retain moderate amount liquid nourishment. Chilly and quite nervous during day. Sleep about 6 hours in 24.

January 8: Ice-coil to abdomen has been repeatedly employed but poorly tolerated, generally producing marked chilliness. Several chills to-day and repeated vomiting. Temp. 103.4 to 104.6. Pulse 104 to 120.

January 9: Temp. 103.8 to 104.4. Complains of nervousness. Two chills during day, one quite strong.

January 10: Chilliness. 8 a. m. Bowel movement; apparently large proportion bright red blood mixed with many small clots and small amount urine; total measured 600 cc. Morphine hypo. 8:20 a. m. 15 cc. pure blood per rectum. Temp. 103.4. Pulse 118. Resp. 24. Calcium Chloride enema. Gelatins. Complains of queer sensation about heart; pulse rapid but fair quality. 12 m. temp. 101.8. Pulse 124. Resp 22. 12:20 p. m. vomited 12:30 p. m. large bowel hemorrhage. Morphin hypo. Adrenalin m x hypo. Adrenalin enema. 3:30 p. m. medium large hemorrhage. Pulse 150. Morphin and adrenalin hypo. 4:20 p. m. Large bowel homorrhage. 5:20 p. m. Temp. 100.9. Pulse 146. Quite weak. 6 p. m. pulse 160. Patient's condition appears desperate. For days she has retained practically nothing but liquids. Is now exceedingly weak, pulse barely palpable, rapid, thready, and the usually pale face appears ghastly white and old, the features drawn. Red blood cells 2,072,000. Hemoglobin 35%, leucocytes 7100.

The patient's condition certainly seemed hopeless. The homorrhages were far greater than one could expect with an ordinary typhoid. Gastric hemorrhages as well as the early epistaxis and bleeding gums pointed to a general septic condition, though ulcers in the stomach could not be definitely ruled out.

It was decided to do a transfusion immediately. It was naturally impossible to carry out hemolytic tests with prospective donors, nor could time be lost in searching for a person who had previously had typhoid, to act as donor. A nurse was found who volunteered to make the sacrifice on ten minutes notice, and at 7:10 p. m. the patient was taken to the operating room, where Wallace I. Terry and Sterling Bunnell carried out the direct method of transfusion.

The result was soon noticeable; the patient's pulse became fuller, the great anxiety and dyspnoea slightly lessened and the pearly conjunctiva assumed a better color and the wrinkles about the mouth became less apparent. But while the transfusion was still progressing, matters again seemed to take a turn for the worse, so that at this time it was assumed that another hemorrhage was taking place.

The blood count before the transfusion was 2,007,200 with 35% hemoglobin; 2,340,000 with 40% hemoglobin after the transfusion. The patient suffered a severe chill as soon as she was returned to her bed from the operating room. Pulse 140. Resp. 28. Temp. 104.8 (rectal).

January 11: At 1:15 a. m. large bowel hemorrhage. 1:30 a. m. vomited. Vomiting of all nourishment and liquids during entire day. Headache. Temp. range 97.8 to 99 (rectal). Pulse 104 to 114. Resp. 18 to 22. Urine contained large amount of albumin but no blood. Diazo still present.

January 12: Difficulty in breathing, only in part due to abdominal distention, but while of sighing type, no increase in rate, not relieved by oxygen inhalation. Vomited 14 times in 24 hours. Temp. 97 to 100 (rectal). Pulse 102-14. Resp. 18 to 20. Urine 250 cc.

January 13: Ringer's solution subcutaneously, and salt solution per rectum. Vomited 3 times. Only 100 cc. urine, this per catheter. Patient decidedly weaker. Temp. 98.4 to 99.4 (rectal). Pulse 100 to 108. Resp. 15-20.

January 14: Nutrient enemas. Nausea and vomiting persist. Temp. 98.2 to 98.4 (rectal). Pulse 94-104. Urine 150 cc. (catheter). One enema was returned with some old clotted blood.

January 15: Temp. 98.2 to 98.6 (rectal). Pulse 96 to 104. Urine 120 cc. (catheter). Vomiting persistent.

January 16: Very weak. Temp. 97.2 to 97.4 (rectal). Urine 125 cc. (catheter). At times seems to be in stupor.

January 17: Temp. 96.6 to 97 (rectal). Pulse 92 to 96. Resp. 16 to 22. Urine 270 cc. (catheter). Parotid glands are tender and a trifle enlarged.

January 18: Quite weak and exhausted. Temp. 96.6 to 98 (rectal). Urine 150 cc. (catheter). During last 2 days, whatever patient desired was given her, steak to chew, custard, etc., but within a half hour it was always vomited. Has spells of difficult breathing. Parotid glands are very tender and palpably swollen.

January 19: Temp. 96. Pulse 120. Resp. 30-40. Constant difficult breathing unrelieved by oxygen inhalations. Pain around heart complained of. Leucocytes 24,000.

During the last few days a mass had been felt in the right flank further down than the gall-bladder, which has decreased gradually in size. It seemed too large for kidney, and in view of a possible perirenal abscess (pyo-nephritis practically excluded by absence of albuminuria, this having disappeared a few days ago, and by absence of renal elements in sediment, the pus cells being easily explainable by a moderate degree of cystitis; sediment showed presence of bacilli, culturally typhoid), needles were inserted in flank but without finding pus, this under nitrous oxide anesthesia with patient in her own bed. After this, slept at short intervals, waking up to complain of inability to get breath. Morphin relieved this distress, and becoming gradually weaker, conscious practically to the very end, patient died on January 20 at about 7:30 a. m.

The body having been embalmed very soon after death, it was possible to perform but an incomplete and somewhat unsatisfactory autopsy. The abdomen only was opened. The embalmer's needle had punctured the gall-bladder to such an extent as to warrant no deductions as to size. The gastric mucosa was injected in a few spots, was for the most part hyperaemic, but no ulcerations were seen. The intestine showed typical typhoid ulcers in the ileo-caecal region, most of them in process of healing.

Large masses of blood clot occupied the lumen of the bowel in this neighborhood, much of which must have been from recent hemorrhage. The kidneys were of the large white variety, (parenchymatous nephritis), the right one reaching down to the anterior superior spine. It measured 14 by 6½ by 4½ cms., the left one 12 by 6 by 5 cms.

We can but feel that the transfusion accomplished something, in fact far more than the blood counts indicated, for the patient no doubt had a hemorrhage while on the operating table, and this helped to lower the post-operative count. We believe that without the transfusion death would have occurred on January 10th instead of ten days later. The remarkable feature of the case was the fact that, following the transfusion, the patient's temperature never went beyond the normal, although on the ninth it had been up to 104.4 (rectal). This cannot be attributed to shock nor to the anemia, for almost up to the last, the pulse was of such character as to exclude these possibilities.

We are of the opinion that the patient's chronic parenchymatous nephritis had much to do with her hemorrhagic tendency; that the latter was aggravated by her severe typhoid; that both combined, but principally the former were responsible for the persistent vomiting. It is curious enough that the albuminuria diminished a few days after the transfusion.

Should we ever again be called upon to treat a severe case of typhoid complicated by a hemorrhagic tendency, we would if possible procure a donor immune to typhoid, and whose serum, tested for hemolysins and iso-agglutinins, was proved devoid of danger to the patient.

HOSPITAL DEPARTMENT — SAN FRANCISCO HOSPITALS.

By WM. R. DORR, M. D., San Francisco.

Perhaps no other city in history and certainly no other modern city has had more incentive to construct and put in running order a large number of hospitals than San Francisco has had during the last five years, and I am sure that no community could have responded more loyally to the need than has been done during this more or less trying period.

In the spring of 1906 San Francisco had about forty hospitals, of which very few could be described as thoroughly modern and up to date.

Private Hospitals.

	No.	Beds.
Hospitals for special classes of cases, using mostly remodeled buildings	7	152
General hospitals using old buildings or buildings not originally intended for hospital purposes	8	500
General hospitals using modern buildings built for hospital purposes but over five years old	4	600
General hospitals having buildings constructed for hospital purposes during the last five years	11	1180
	30	2432

Municipal Hospitals.

	No.	Beds.
Emergency Hospitals	5	49
Detention Hospital	1	8
Smallpox and Leper Hospitals	2	70
General Hospital	1	350
General Hospital (in process of construction)	1	510
Tubercular Hospital (planned)	1	260
Infectious Hospital (planned)	1	100
	12	1347

This gives a grand total of 3779 beds or one bed to about every 110 inhabitants.

After the great conflagration only four hospitals

remained that were housed in modern buildings built for hospital purposes and few of the old structures remained, so that hospital authorities were pushed to the utmost to provide temporary makeshifts to fill the need for hospital treatment.

It was not long, however, before plans were being adequately made to fill the need, so that to-day we have a large number of hospitals, all of which are modern and up to date in every way, that have been built for hospital purposes and have all been completed or started during the last five years.

The following table shows a rough classification of the present hospitals of this city, but does not include those maintained by the Federal Government.

The following hospitals, examples of up-to-date general hospitals designed for private cases, have all been completed during the last five years or are in the process of construction.

These eleven hospitals show quite a variety of architecture, general plan and type of construction.

The Adler Sanatorium, offering accommodations for 55 patients, has its exterior finish in the Spanish style and is constructed throughout of reinforced concrete and in general shape like the letter L.

The McNutt Hospital, with 110 beds, located in a commanding position on the side of one of the highest hills of the city, is also constructed entirely of concrete.

The Southern Pacific Hospital, with 200 beds, is a magnificent example of what can be accomplished when one man is permitted to express his ideals of hospital construction and is not tied down by considerations of cost. This has been built with steel frame and brick exterior walls finished in the Renaissance style. Its general shape is that of an expanded letter H.

The Children's Hospital has just completed the main part of its new building, which has about 40 beds, and has started the construction of a building to care for about 20 contagious cases. The main building will be the shape of the letter U, and has been built with steel frame and exterior brick walls in the Italian style of architecture.

St. Mary's Hospital, with 100 beds, is so planned that more wings can be easily added, which will more than double its present capacity. The framework is steel with reinforced concrete walls and the exterior finish is in the Spanish style.

The St. Francis Hospital, accommodating 100 patients, is built with steel frame and brick exterior walls. It is extremely compact in appearance and is finished in the Renaissance style.

St. Luke's Hospital, now in process of construction, will have 150 beds, the frame being reinforced concrete and the exterior walls brick. The general shape might be described as a number of U's joined together to make one building and the architecture Gothic.

The German Hospital, with 220 beds, has been constructed with steel frame and brick walls. Its general shape is that of an expanded letter H. It is located on the side of a hill commanding an extensive view of the city.

Mt. Zion Hospital, now in process of construction, will have 125 beds and will be constructed with reinforced concrete frame and brick walls. It will be finished in the Renaissance style.

St. Winifred Sanatorium, with 50 beds, has been constructed of reinforced concrete and brick.

The Memorial Sanatorium, with 20 beds, is built with steel frame and brick exterior walls and is finished in the Renaissance style.

At the same time that private corporations and individuals have been busy providing for patients, the municipal authorities have likewise, after years of inadequate provision, finally adopted a comprehensive scheme for the municipal hospital service and are gradually getting the different parts in operation.

First, a reinforced concrete building to hold 350 patients has been built on the Almshouse Tract, which is intended ultimately for chronic cases, but at present is being used for acute cases. This building is in every way modern and well adapted for the purpose for which it was originally intended.

Second, the old hospital at Twenty-second and Potrero streets, which had stood for about forty years, was demolished, and in its place has arisen a most magnificent group of buildings which when completed will accommodate 510 general medical and surgical cases, with complete emergency department, pathological laboratories and everything necessary to provide a complete municipal teaching hospital.

Back of this main group of buildings the plans call for a group of buildings for the accommodation of 260 tubercular cases and another group for 100 infectious cases. At present shacks similar to those suggested by the National Association for the Study and Prevention of Tuberculosis have been erected on part of this property and are housing the city's tubercular cases in a very satisfactory manner.

The former Smallpox Hospital, for years a disgrace to the community, has been completely remodeled and practically reconstructed so that smallpox cases, which are always found more or less frequently in every seaport, are now properly provided for.

Likewise the quarters for San Francisco's leper colony, numbering about 16, have been entirely remodeled.

It can thus be seen that the city government is in no way behind the standard set by private individuals in providing hospital accommodations for our increasing population.

From the foregoing it would seem that San Francisco will soon be not only well supplied with municipal hospitals, but also extremely well provided with private institutions of all descriptions. This shows that hospital authorities are fully alive to the fact that during the construction of the Panama-Pacific Exposition and during the time that it is opened, combined with the opening of the Panama Canal, there will be a very great demand for hospital accommodations and show their confidence in the increased growth of this, the main seaport of the Pacific Coast.

The detailing of the different interior arrangements of these hospitals, the devices for the comfort and proper care of the patients, the various systems adopted for handling the distribution and service of

meals, the arrangement of operating rooms, the methods of handling stores and the methods of keeping records, would take a volume to be given in detail.

Each one of the private general hospitals is intended to handle practically the same class of cases and to give them the best possible medical and surgical treatment and also the same attention as is accorded guests in a first-class modern hotel. Besides this, each has undoubtedly striven as much as possible to minimize the cost of administration, service and general upkeep, in order to be able to care for patients at the lowest cost for the service given.

Despite the fact that all are striving toward the same goals—efficiency and economy—still no two are attempting to reach these in the same way. Take, for instance, the prime department in a hospital outside of the strictly medical and surgical care, i. e., the culinary department. This department is handled in as many different ways as there are hospitals, with more or less success. The essentials in this are (1) having the food cooked, (2) putting it on a tray and (3) getting it to the patients in a palatable and edible condition. These are the same in all hospitals, and yet each hospital does this or attempts to do it in a different way. Despite the fact that most patients develop into "cranks" relative to their food, we nevertheless must admit that they frequently have just grounds for complaint along this line.

The above statement relative to the different ways of handling food may be taken as a fair example of the variety of methods of handling situations found in all departments of our hospitals and goes very clearly to show the need of association and the interchange of ideas among hospital workers, so that some day the perfect hospital may be built and built where it should be built—in the West.

PERMANENT SUPRAPUBIC DRAINAGE OF THE BLADDER WITHOUT LEAKAGE—DEMONSTRATION OF A CASE.*

By HENRY MEYER, M. D., San Francisco.

While it is very seldom that one is called upon to perform permanent drainage of the bladder, it must be admitted that we occasionally meet with a pathologic condition requiring such treatment. It is not my intention to discuss the class of cases requiring such an operation, or to describe any of the appliances which have been devised for drainage of the bladder, but to present a simple apparatus which has permitted the urine to flow out of the bladder of my patient, and at the same time allowed the patient to remain absolutely dry. I wish to say here that before this apparatus was perfected, the patient was just as wet and uncomfortable as most other suprapubic drainers.

In order to accomplish a good result, we must employ:

First, a tube extending from the skin to the interior of the bladder.

Second, a shield to prevent this tube from being forced out, and to assist in keeping the tube in one position.

Third, a piece of tubing, which connects the bladder tube with a rubber urinal, which is attached to the patient's leg.

Fourth, a narrow band which goes around the body, which keeps the drainage-tube and shield in place.

Each of the articles mentioned, i. e., the tube, shield, connecting tubing and abdominal band, require special description, so that when used as a unit it will accomplish the purpose for which it was intended.

The tube extending from the exterior of the body to the interior of the bladder. This must be rigid, and I would advise that it be made of silver or gold, three-eighths of an inch in diameter, with the bladder or distal end closed to prevent the bladder mucosa from being forced into it when the bladder contracts. It is most important that the tube should be so constructed that the part of the tube which lies within the bladder should be perforated with many small openings, except its distal end. That part of the tube which is not perforated, i. e., the part extending from the skin to the first line of perforations, will vary in length according to the thickness of the tissues between the skin and bladder. Either of these parts, i, e., the perforated or the unperforated part, may be made longer or shorter or curved as the individual case requires, but the above-mentioned principles must be maintained, i. e., the part within the bladder must be perforated with many small openings up to the point of entrance of the tube into the bladder cavity, and the remaining part of the tube, extending from bladder cavity to skin, must not be perforated; otherwise the tissues gripping it will crowd into the perforations and make it difficult and painful to remove, which should be done once daily in order to cleanse the same. The reason for making the perforations small is to prevent the bladder mucosa from being forced into them, while the small openings are no hindrance to the escape of the urine.

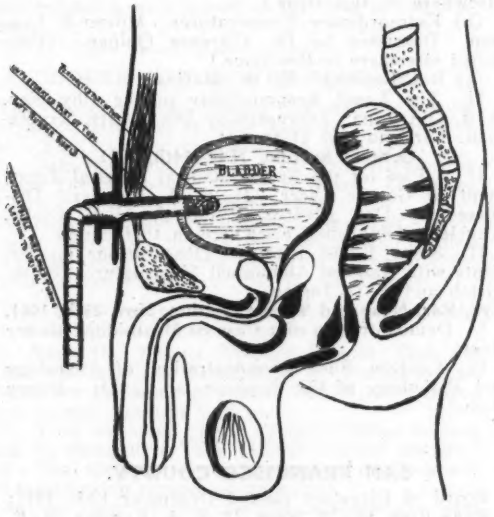
I would also advise that this perforated portion be only long enough to extend a short distance into the bladder, then the patient does not suffer from irritation of the bladder as a result of the presence of the tube. If this part of the tube is unnecessarily long, it stands to reason that it will rub and irritate the bladder so that the patient can not tolerate it. If we wish to construct such a tube, it is very easy to determine how much of the tube (which is unperforated) should lie between the skin and bladder with a Pezzer catheter, by inserting the same through the fistula into the bladder and measuring the distance to the skin.

Then, to insure its exact position when inserted, a narrow metal collar one-eighth of an inch wide is shrunk on to the tube, and this collar comes against the skin when the tube is inserted into the bladder. Thus it will be seen that the tube must be made to order for each case.

The most important point, then, is that the part of the tube lying within the bladder cavity to a point near its distal end should be well perforated;

* Read before the Section on Urology of the San Francisco County Medical Society, Oct. 31, 1911.

this permits the urine to enter the tube from all sides without resistance. If the tube is not perforated up to the point of its entrance into the bladder, then when the bladder contracts the urine is forced not only into the tube but around it, along its non-perforated walls, and leakage is inevitable. So long as there is no resistance to the passage of urine through the tube, the abdominal muscles and bladder musculature prevents leakage by hugging the tube; but just so soon as there is resistance to the passage of urine into the tube, the urine is forced along the outer wall of the tube in spite of muscular



action and that is the reason why the tube must be perforated up to the very point of its entrance into the bladder.

The Shield. The shield is constructed entirely of soft rubber, consisting of two flat rounded pieces of soft rubber one-quarter of an inch apart but connected by a soft piece of tubing, thereby making a unit of the same. This is slipped over that part of the metal tube which projects outside of the body so that the larger flat piece rests against the skin. This larger flat piece is one and three-quarter inches in diameter. The smaller flat piece is one and one-quarter inches in diameter. It is very important that this shield should be made of soft rubber as it permits the patient to move about in any direction, or to assume any position without shifting the tube about, because it conforms to any shape the body may assume without influencing the position of the metal tube.

With the use of a metal shield, the movements of the body invariably change the position of the tube, causing it to be shifted from side to side or upwards or downwards, thereby permitting the urine to run all over the patient every time he makes any muscular efforts or bends forward, backward or sideways.

The tube connecting the bladder tube with the rubber urinal. This tube must be so constructed that it is flexible and non-collapsible; so that it can not be compressed by the patient, regardless of the position he assumes; because as soon as this tube is compressed, the urine can not flow through it, and it is immediately forced out of the bladder, along the walls of the bladder tube.

To obviate this, the patient has a tube made of rubber, but incorporated in this rubber tube throughout its entire length is a spiral of German silver wire, which allows the tube to maintain its lumen under all conditions. This wire lined tubing fits into the open external end of the metal drainage tube and held in with a short piece of pure rubber tubing which is put around the outside of the projecting metal tube and lapping over on to the wire lined tube.

The band around the body. This is a narrow band two inches wide which fits around the body, and so constructed that it presses the larger flat piece of the soft rubber shield against the skin, keeping the whole apparatus in place.

There is also one narrow flat elastic band which connects with the band around the body, in front and in back, running between the thighs; this keeps the abdominal band from slipping up.

The patient. The patient is now 61 years of age; his trouble commenced about 35 years ago, during which period he suffered from painful and frequent urination of varying degrees of intensity and at times his suffering was so severe as to require large doses of morphin to relieve him. He wore a urinal for 15 years.

He came under my observation October 19th, 1908, suffering from painful and very frequent urination day and night. The urine was always very turbid, but this turbidity was due particularly to the presence of phosphates in large quantities. The urine was always highly alkaline in reaction. There was always a trace of albumin, due to the presence of a small quantity of pus, which was always present.

The urinary sediment contained bladder epithelia, phosphates, pus cells. No tubercle bacilli were found; no blood.

Cystoscopy was done under spinal anesthesia, with a small amount of fluid in the bladder, eighty-five cubic centimeters, as the bladder was very much contracted. The mucosa was uniformly inflamed and the bladder showed great trabeculation. The existence of tumor or calculus could be positively excluded by this examination.

Prostate showed no enlargement within the bladder, and by rectum revealed no enlargement.

His bladder capacity was one and one-half ounces and of this amount one ounce residual was invariably present.

Diagnosis: Contracted bladder resulting from prolonged phosphaturia. Diet, internal medication and bladder irrigations were tried by many, including myself, but gave no relief. Patient had been treated by many competent men here and elsewhere for phosphaturia for many years without success. Gradual dilatation of the bladder was tried by several, also without success.

The patient's condition was so distressing, and he was such an extreme sufferer that I offered him a suprapubic cystotomy, explaining the possibility of resorting to permanent drainage, which he most gladly accepted.

Operation: Suprapubic cystotomy was done November 3rd, 1908. The bladder was found to be about three-quarters of an inch thick and it was very evident that his one ounce of residual urine was due to the great thickness of the bladder wall, which could not contract sufficiently to allow its walls to come together. There was no obstruction.

A large rubber drainage tube was placed in the bladder through the suprapubic opening and the same allowed to drain. The tube was removed on the fourth day and the opening gradually contracted until it became small enough for a tube the size of the present suprapubic drainage tube to enter, and since that time, November 3rd, 1908, the patient has been a suprapubic drainer; but not without its great discomforts in the beginning.

Various appliances and drainage tubes were tried, and while urine came through all of them, just as much came around the tube, and the patient was always wet, at times very wet; and the appliance which I demonstrated to you was gradually evolved, piece by piece, so that this patient has been absolutely dry for one and one-half years and he is free from pain and discomfort, and gets about as well as any other man.

Discussion.

Dr. R. L. Rigdon: I can add nothing of importance to the discussion as I have had no experience with such a drainage apparatus. Some years ago I operated upon a patient for prostatic hypertrophy, and following the operation a permanent suprapubic fistula remained. The prostatic obstruction was not entirely removed and the patient is compelled to rely upon catheterization of his bladder through the suprapubic fistula. He can retain his urine without leakage for 5-6 hours and then by introducing a catheter through the wound the urine can be withdrawn and the patient is perfectly comfortable. There is no leakage unless he neglects to introduce his catheter. In this patient no form of urinal is necessary since he has practical control of his bladder.

Dr. Julius Rosenstirn: I have very little to add to this discussion. The imperative demand for relief in Dr. Meyer's case, strictly indicated this kind of treatment. It was not possible to use catheterization on account of the necessary frequency and its consequent painfulness; the bladder being so very small and sensitive. with no possibility or prospect of gradually increasing its capacity.

This device is most creditable to both the doctor and his patient, with whose help it was devised. In cases demanding similar therapeutic measures, Dr. Meyer's instrument should be applied as one giving relief in this, fortunately, very rare and most tormenting combination of diseases.

Dr. J. C. Spencer: I wish to express my admiration of the ingenuity demonstrated by relieving so distressing a condition. In this case necessity was the mother of invention. I had the good fortune to see this apparatus before this evening and was struck by its simplicity and effectiveness. If there is any condition that is distressing not only to the patient but also to the doctor, it is a leaky suprapubic opening. If this new device for giving relief to patients requiring a suprapubic drainage apparatus is a success it marks a step in the advance of the treatment of this condition.

Dr. Henry Meyer: In answer to the questions which Dr. Rigdon has asked, the capacity of the bladder has not increased. The bladder capacity cannot be increased because the patient has such a thick bladder and it is practically always empty. This tube might be valuable to relieve a patient who had been operated upon for malignant disease in the bladder, or inoperable carcinoma with frequent urination, tenesmus, etc. Something of this kind might answer for giving relief while the patient is still alive.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of November the following meetings were held:

Combined meeting of the Medical and Surgical Sections, Nov. 7, 1911.

I. Demonstrations. (a) A case of Polycythemia. W. C. Voorsanger. Discussed by Drs. Abrahamson, Kreutzman, Power and Voorsanger. (Published elsewhere in this issue.)

(b) Extraordinary Temperatures. Milton B. Lennon. Discussed by Dr. Clarence Quinan. (Published elsewhere in this issue.)

(c) Rat Leprosy. G. W. McCoy.

II. The Legal Responsibility of the Physician. A. A. D'Ancona. Discussed by Drs. Welty, Kruetzman, Lartigau and D'Ancona.

General Section, Nov. 14th, 1911.

I. A Plea for the Earlier Radical Surgical Treatment of Gastric Ulcer. H. B. A. Kugeler. Discussed by Drs. Alvarez, Ryfkogel, Allen, Castle, Kugeler. (Published elsewhere in this issue.)

II. Some Blood Pressure Observations on Patients with Relaxed Abdominal Musculature. F. W. Birtch and T. G. Inman.

Eye, Ear, Nose and Throat Section, Nov. 28th, 1911.

I. Demonstration of a Case of Mastoiditis. Henry Horn.

II. Lantern Slide Demonstration of Histology and Pathology of the Semicircular Canals. Henry Horn.

SAN FRANCISCO COUNTY.

Board of Directors elected December 12th, 1911: Rene Bine, W. W. Kerr, H. B. A. Kugeler, H. E. Alderson, H. C. Moffitt, W. I. Terry, M. R. Gibbons, G. E. Caglieri, G. E. Ebright, J. C. Spencer, P. M. Jones, A. A. O'Neill, G. B. Somers, F. D. Tait, H. W. Allen, C. G. Kenyon, J. B. Frankenheimer, M. B. Lennon, C. F. Welty, H. D'A. Power, T. D. Maher.

OFFICERS ELECTED DECEMBER 18, 1911.

President, Dudley Tait; 1st Vice-President, Harry E. Alderson; 2nd Vice-President, Morton Gibbons; Secretary, René Bine; Librarian, Leo Eloesser.

SAN DIEGO COUNTY.

A certified dairy has been opened in San Diego. A municipal laboratory has been established for the handling of all bacteriological work, testing of milk, tuberculin and mallein tests of cattle, etc. Dr. H. A. Thompson has been placed in charge.

A city ordinance has been passed licensing dairies and distributers of milk. The proceeds, amounting to about $800.00 per year, are to be applied to the health fund of the city.

B. J. O'NEILL, Secretary.

SAN LUIS OBISPO COUNTY.

At a meeting of the County Society held December 2nd, the following officers were elected. Dr. H. S. Walters, president; Dr. C. J. McGovern, vice-president, and Dr. W. M. Stover, secretary-treasurer. The meetings of the society are now held on the first Saturday of each month. Considerable interest is awakening in the society work and it is hoped that before the end of the year every man in active practice in the county will be a member of the society.

CALIFORNIA ACADEMY OF MEDICINE.

The regular meeting of the California Academy of Medicine was held on Monday evening, November 27, 1911, in the library of the San Francisco County Medical Society. The following scientific program was presented:

1. A Report of a Case of Raynaud's Disease. W. W. Kerr. Discussed by Drs. Schmitt, Eloesser, Terry, Twitchell, McClenahan, Kerr.
2. Multiple Papillomata of the Larynx; a Report of Two Cases. E. C. Sewall. Discussed by Drs. Sherman and Sewall.
3. Demonstration of a Specimen of Salivary Calculus. J. G. Morrissey. Oiscussed by Dr. Sherman.

Dr. W. F. Snow and Dr. E. C. Fleischner were elected to membership.

Refreshments were served at the close of the program.

COOPER COLLEGE OF SCIENCE.

The Cooper College Science Club held its regular monthly meeting on Monday evening, December 4, 1911. The scientific program was as follows:

1. Demonstration of Cases of Naevi treated by Carbon Dioxid Snow. Dr. G. H. Mize. Discussed by Drs. Eaves, Stillman, Haas, Mize.
2. Demonstration of Medical Cases. Dr. W. F. Shaller. Discussed by Drs. McClenahan and Shaller.
3. Case of Hookworm Infection apparently acquired in San Francisco. Dr. W. C. Alvarez.

The following recommendations made by the Board of Directors were adopted:

1. That the Cooper College Science Club requests the Medical Department of Stanford University for the same privileges that it has enjoyed from Cooper Medical College.
2. That the name of the Cooper College Science Club be changed to "The Cooper Clinical Society."
3. That the form of government and qualifications for membership remain as heretofore.

At the close of the meeting refreshments were served.

UNJUSTIFIABLE CRUELTY.

In December, a Dr. Johnson, connected with the Pacific Wassermann Laboratories, was arrested by Humane Officer Hennesy for cruelty to an animal, to wit: cutting off a goat's ear in order to secure blood for laboratory work. The case was heard before Police Judge Shortall, and at the first hearing several doctors were present, among them Dr. Hunsaker and Dr. V. C. Thomas, and some of these gentlemen stated that anesthetics were never administered to animals at any college or hospital in the country. At the second hearing, a certificate was presented from Dr. A. W. Lee, of the University of California, showing that ether is always used prior to withdrawing blood from the jugular vein of a sheep, and for all similar work. Dr. Dudley Tait testified to the general use of anesthetics for such work, the effort of the A. M. A. to promulgate all humane treatment of animals in experimental work, and stated that, in his opinion, "nothing will more retard the progress of medicine and its benefits to humanity than the introduction of cruel methods in animal work." The Judge stated he had consulted a distinguished surgeon who expressed the opinion that Wassermann tests were invaluable, but that it would be more cruel to give an animal an anesthetic than merely to cut off its ear! This is certainly a most curious opinion. The Judge complimented Officer Hennesy upon his diligence, but dismissed the case, stating that from the conflicting testimony he could not tell whether there had been any cruelty or not. It is just these rare cases, where some one without due regard to the important nature and consequences of the work he is doing, is cruel to animals, that furnish the ammunition for the antivivisectionists. As Dr. Tait justly says, we should be more particular to avoid even the semblance of cruelty in animal work than in human surgery.

A San Francisco paper, under date of Dec. 9th, 1911, printed the following:

"Court Gets Goat's Goat.

"Five physicians and one scientist appeared before Police Judge Shortall yesterday morning to testify whether or not it is cruelty to animals to clip a goat's ear to get blood for experimental purposes.

"Dr. Dudley Tait of St. Francis hospital stood out alone against the others and insisted that an anesthetic ought to be used on the goat. Other physicians insisted that the anesthetic spoiled the experiment. The other physicians were: Dr. Walter Coffee of the Southern Pacific hospital, Dr. Charles Clark, Dr. H. W. Hunsaker, Dr. Verin Thomas. Incidentally Dr. Tait told the court that every hospital in the city was trying to get hold of goats for experimental purposes.

"Edward Johnson, bacteriologist and chemist for the United States government, was on trial for cruelty to animals for clipping the ears of a goat. The court dismissed the case."

DIAGNOSTIC TABLE.

After Hoag's "Health Index of Children."

The "Sage Foundation" has had printed 5000 copies of this table.

Teachers should be on the watch for the following symptom groups. The disorders which give rise to them make for mechanical inefficiencies and call for medical attention:

Disorders of Nose, Throat and Ear.

Mouth-breathing, prominent upper teeth, loud breathing, nasal voice, catarrh, running nose, frequent colds, sore throat, offensive breath, cough, blank expression, slow mentality, deafness, poor physical development, earache, discharge, inattention, poor spelling, watching of lips, slow progress, headache.

Eye Disorders and Defects.

Sore eyes of any kind, styes, congested eyes, crossed eye, squinting, headache, peculiar postures when reading, holding book too near face, poor spelling or reading, dizziness.

Teeth Defects.

Decay of teeth, discoloration, crooked teeth, prominent teeth, offensive breath, poor articulation, broken teeth, mal-nutrition.

Contagious Diseases.

Pallor, flushed face, eruptions, scratching, sleepiness, lassitude, vomiting, headache, cough, running nose, congested eyes.

Nervous Disorders.

Inability to hold object well, spasmodic movements, twitching of eyes, face or any part of the body, irritability, fits, bad temper, fainting, nail biting, undue emotion of any sort, frequent requests to "go out," timidity, stammering, cruelty, perverted tastes, moroseness, solitary habits, undue embarassment, undue activity, misbehavior, sex perversions.

Nutritional and General Disturbances.

Pallor, emaciation, enlarged glands in neck, puffiness of face or eyes, shortness of breath, lassitude, perverted tastes (e. g. foods), slow mentality, peculiar or faulty postures, under development, excessive fat, vicious personal habits, low endurance power, irritability, disinclination to play, fatigue.

Defects of the Feet.

Walking "pigeon toed," a shuffling, inelastic walk, toeing markedly out, advancing foot by exaggerated knee action, long axes of foot and leg meet at unusually wide angles, shifting from foot to foot, standing on outer edge of feet, locking knees, leaning against wall or desk, shoes run over at either side, front of heel worn down, outer and back part of heel worn down, wearing out of soles asymetrically, congestion of the feet, swelling, puffiness, excessive perspiration, callouses, twitching of the foot muscles.

Incorrect Posture.

Unequal height of shoulders, standing on sides of feet, prominent abdomen, flat chest, curved back, stooping.

HITCHCOCK LECTURES.

The Hitchcock Lectures in the University of California will be given this year by Dr. Richard M. Pearce, professor of Research Medicine in the University of Pennsylvania. Professor Pearce is well known to all who are interested in the advancement of scientific medicine in America, not only through his own contributions to various subjects connected with bacteriology and pathology, but through the positions which he has held as Professor of Pathology successively in the Albany Medical School, New York University, and the University of Pennsylvania. The chair of Research Medicine which Professor Pearce now holds is unique, but is undoubtedly indicative of the most characteristic tendency of modern medical science, namely, its service in connection with the practical problems which confront the clinician.

Dr. Pearce's lectures will begin on the evening of January 22nd and will be given on successive days, and deal with the following aspects of the history of research in medicine: "Antiquity to 1800—the Efforts of Isolated Investigators"; "The Development of Laboratories for the Medical Sciences"; "Pasteur and the Rise of Bacteriology"; "Present Day Methods and Problems"; "Medical Research in American Universities—Its Present Facilities, Needs and Opportunities."

BOOK REVIEWS

Nostrums and Quackery. Pub. by Jour. of Amer. Med. Ass'n. Chicago, 1911.

Perusing this volume one is impressed with the expediency of every member of the profession giving a copy a prominent place in his waiting room, so that those who wait may read. By this means the public may be imbued with a proper feeling of nausea occasioned by the fakirs who feed on the physical ills of communities. It is a collection mostly of reprints from several medical journals, particularly the Journal of the A. M. A., containing interesting, thorough, and certainly startling exposures of the patent frauds, which burden the eye and insult the intelligence in the advertising media of this country. Of particular local interest is the article on Viavi, reprinted from our State Journal of 1907, in which we see our prominent Law brothers figured in a pitiful and even criminal light.

As a ready book of reference concerning the compositions of the various preparations and the methods of their exploiters, it is a most delightful addition to our shelves. It cannot be too strongly urged that each one of us should know this work well for by that knowledge we can speak, fortified by facts. Read it and own it. H. I. W.

The Origin of Life.* By H. Charlton Bastian, M. D., F. R. S., Emeritus Professor of the Principles and Practice of Medicine, University College, London. G. P. Putnam's Sons, New York and London, 1911.

This treatise embodies a memoir submitted to the Royal Society of London on the Origin of Life question but not considered suitable for acceptance by that body, with the result that the author has produced it in book form. Heterodoxy well supported is often a potent factor in the advancement of knowledge, but heterodoxy poorly supported may cut a sorry figure. In the latter form it is here presented.

Students interested in the question of the spontaneous origin of life will remember the author as the picturesque figure supporting this doctrine in the famous controversy with Huxley and Tyndall in 1870, and later with Pasteur. Doubtless the majority of readers will have assumed that the question was closed and the combatants all at rest. Such is almost the case but not quite; all the warriors of four decades ago have passed away with the exception of Bastian, and all but he were convinced he was wrong and no reader of to-day will have occasion to feel that their judgment was not sound, after a perusal of this book. The discussion has a curious flavor of the quaint and naive in places, as, for instance, when "the germinality" of fluids is spoken of. It almost recalls the alchemists. But again one encounters the views of eminent modern scientists correctly quoted, such a mixture is it of the old and the new, of sound and unsound.

The author frankly admits that he believes in heterogenesis, the de novo origin of life (and, incidentally, contagious disease) and postulates that silicon probably wholly or in part replaces carbon in the composition of the protoplasm of living organisms. Adequate evidence in support of any single one of these doctrines is wanting.

Glass tubes containing solutions of "ammoniac" phosphate, dilute phosphoric acid, liquor ferri pernitratis and sodium silicate or colloidal silica were prepared, hermetically sealed and heated to temperatures ranging from 100° C. to 145° C. for periods of from five to thirty minutes. The tubes were then allowed to stand in the sunlight or shade for long intervals of time and finally opened. Smears made when the tubes were opened were examined under the microscope with a quarter-inch objective and a number 6 eyepiece. The findings in these smears included torulae, bacteria (masses of bacilli and cocci), so-called fungus germs and molds. These findings are regarded by Bastian as being conclusive proof of the spontaneous origin of life. That the questions of contaminations and thermal death points are touched upon in only desultory fashion will be at once realized when one thinks of the nature of these experiments. No cultures were made, no stained preparations, no controls of thermal deaths of resistant spore-bearing bacteria; in a word, no attempt to arrange an adequate experiment.

Dr. Bastian would have served himself and the reading public the better had he gracefully accepted the hint of the Royal Society.

J. G. FITZGERALD, M. D.

* Being an Account of Experiments with Certain Superheated Saline Solutions in Hermetically Sealed Vessels.

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Vol. II. Published by W. B. Saunders Co., Philadelphia, 1911.

This, the second volume of collected papers by the staff of the Mayo Clinic at Rochester, Minn., offers in easily accessible form the published articles emanating from that source during the year 1910. Altogether, there are fifty-four articles, varying in length from pages 5 to 42, and in subject matter from the exhaustive study of W. C. MacCarty on the "Pathology and Clinical Significance of Gastric Ulcer," to Will Mayo's opinion of the climate of Minnesota expressed in his "Notes on Italian Surgery."

Coming from a clinic where so much of the modern gastro-intestinal surgery has been developed one would expect to find a good portion of the volume devoted to a consideration of the diseases affecting the alimentary tract. Such an expectation is abundantly realized. Thus there are 28 papers dealing with conditions affecting the alimentary canal and its associated viscera. Dealing as they do with symptomatology, diagnosis, pathology and treatment, they form a useful and fairly complete text of the subjects treated.

The article by Plummer on "The Technic of the Examination of Esophageal Lesions" well illustrated by reproductions of X-ray plates and diagrams, and the one by C. H. Mayo on the "Diagnosis and Treat-

ment of Esophageal Diverticula," clearly describes methods of diagnosis and treatment which may be followed with confidence by surgeons of less experience.

At this time when so much attention is directed to the discovery of blood, occult and otherwise, in the stomach contents and feces, the observations of Pilcher on the "Absence of HCL with Blood in the Stomach Secretion as a Symptom of Chronic Gastritis" is significant. Of 100 cases operated upon, in only 2 was ulcer found. In four, gastro-enterostomy had been performed elsewhere and was cut off at this operation. There was found, however, in a good proportion of the cases, disease in other organs—in the appendix 36 times, gall bladder 32, gall bladder and pancreas 16, and in 12 cases stomach, gall bladder and appendix were concomitantly diseased. All of which goes to prove the dictum that no abdominal operation, undertaken for the relief of chronic disease, is complete unless a careful examination of all the accessible viscera is made at the same time. No other factor, excepting gross ignorance, makes so much for incomplete abdominal work as the desire to finish the operation in record-breaking time. Yet some great surgeons are not without this vanity.

The ulcer-carcinoma papers by MacCarty and Wilson and Willis have been widely read and frequently quoted. With 70% of all cancers of the stomach showing "gross and microscopic evidences of previous ulceration and isolation of epithelium" any plea for early diagnosis and suitable operative interference is unnecessary. The fact that 12 of the articles in this section deal more or less with carcinoma is proof of the frequency with which this disease affects the alimentary tract and few will deny that in early operation and wide removal lies the only hope of effecting a cure.

The statement of W. J. Mayo on page 127 that they "have never had any complaint of gastric distress from patients after operation" (in gastrectomies or gastrojejunostomies), "if there was unobstructed opening for the passage onward of the food," is certainly not the experience of other operators. These patients often do feel distress after full meals. This distress is prevented by smaller and more frequent feedings which is the secret of the successful after treatment of these cases.

In the genito-urinary section there are three excellent articles by Braasch on "Deformities of the Renal Pelvis," "Recent Developments in Pyleography" and "Examination of the Surgical Kidney. The articles on "Hypernephromata" by Wilson and a "Study of the Histology of the So-called Hypernephromata and the Embryology of the Nephridial and Adrenal Tissues" by Wilson and Willis in the same section, deserve careful study. On the evidence adduced from the study of renal tumors swine and human embryos they conclude that the "so-called adrenal rests are probably of Wolffian origin," in contradiction of Grawitz's hypothesis that the so-called "hypernephromata have their origin in the adrenal rests."

Of the seven articles in the section devoted to the ductless glands four are by C. H. Mayo and deal with the diagnosis and treatment of hyperthyroidism. Coming from the pen of a man of such wide experience the articles are reliable guides in the handling of these most difficult cases. Of the remaining articles, which of necessity must go unmentioned, it is sufficient to say that they hold a fund of valuable information useful to the practitioner as well as the surgeon, affording a storehouse of up-to-date knowledge, with most of which, all of us should be familiar. The print is large and clear, the illustrations of which there are many, generally good; but why publishers persist in using glazed paper is beyond this reviewer's ken. T. G. I.

The Prevention of Sexual Diseases. Victor C. Vecki, M. D. With Introduction by William J. Robinson, M. D. 12 Mt. Morris Park W., New York, 1910.

The synoptical plan followed by the author in the little work before us, detracts in no wise from the frank and wholesome breeziness of his treatment of the subject-matter. He has condensed in most cogent and interesting form, practically the substance of the most mature views on this vital and hitherto usually glossed-over phase of social life. No attempt has been made to benumb the mind with a mass of indigestible statistics; or make mawkish appeal to the sensibilities through the recital of harrowing case-histories. The time and the opportunity for the dissemination of wholesome and unglossed truths regarding the consequences of the disobedience of the laws of sex-hygiene, have long awaited fearless propagandists. The author is one of the first to come into the open with commendable directness and vigor.

This little work should have a wide distribution, not only among the laity, by whom it may be read with exceeding profit by the understanding, but by physicians themselves. The reviewer has only too frequently observed the crude, half-formed and often incorrect views held by the medical profession on matters of sex-hygiene and venereal prophylaxis. For all such this timely little work forms an admirable sign-board.

It were well for the author to have tempered somewhat his extreme, not to say violent, opposition to the very proper and reasonable requirement of the State Health Board calling for the reporting of cases of venereal disease, since the very reason causing him to inveigh so strongly against the rule is swept aside in the absence of anything in the rule to call for a revelation of the identity of the patient.

To be sure this country has as yet no lock and key quarantine and the public is too sadly lacking in information regarding the value of venereal prophylaxis to accept meekly the publicity that goes with compulsory notification in its extreme form. Compulsory quarantine as it exists in Denmark and Norway is only resorted to when the individual refuses or neglects proper treatment of his condition. Up to this point his privacy is safeguarded by a number. When by his refusal to comply with perfectly reasonable regulations looking to the protection of his environment from possible infection, he then becomes a menace from whom the public is entitled to protection.

It is a well-known fact, that the statistics in this country regarding the mere prevalence of venereal diseases and their sequelae are wofully deficient and not calculated to give them their proper importance in the morbidity and mortality statistics. Since by our State Board's ruling the privacy of the patient is perfectly preserved, the reactionary attitude of a large body of the medical men of the State is not readily understandable. If the public, medical and lay, is to be made properly aware of the important role venereal diseases play in the morbidity and mortality in that one-sixth of the 600,000 deaths from preventable diseases, according to the figures of United States Senator Robert L. Owen, then facts must be carefully collected and tabulated.

There can be no body of men better qualified to supply such data accurately than the members of the medical profession. J. C. S.

CHANGES OF ADDRESS.

Edick, George H., 815 So. Olive St., Los Angeles.
Allen, W. L., National City, Cal.
Cosgrave, M., from 86 Post St., to 350 Post St.
Sawyer, Hall Sarah, 626 Gordon Ave., Hollywood, Cal.
Bowlby, Geo. B., from San Diego to 670 So. Alvarado, Los Angeles.

Chase, R. E., from 615 W. 14th St., Glendale, to Bank of Glendale Bldg., Gendale.

Field, A. M., from Tulare to Patterson, Cal.

Craig, M. A., from Winters to 566a 15th St., Oakland.

Helman, Evelyn, Loma Linda, Cal.

Graffin, J. C., Grass Valley, Cal.

Jones, Jno. W., from address unknown to Calistoga, Cal.

Mason, M., 511 14th St., Santa Rosa, Cal.

Cohn, David, from Europe to Fairmont Hotel, San Francisco, Cal.

Cuttle, Fred'k, from Byron Hot Springs, Cal., to Hanford, Cal.

Beard, Jas., from address unknown to Fay Building, Los Angeles.

Ball, J. D., from Livermore to Central Bank Bldg., Oakland.

Boatman, H. F., from Douglas Bldg. to Broadway Central Bldg., Los Angeles.

Wakeman, Nathan L., 254 So. Broadway, Los Angeles.

Tryon, F. M., 105½ N. Hope St., Los Angeles.

Boyson, T., Plymouth, Cal. (Amador Co.)

De Monco, Almo, 124 W. 6th St., Los Angeles, Cal.

Towler, Wm. Bradley, 1217 W. 47th St., Los Angeles, Cal.

Royer, Henry C., Terminal Island, Cal.

Pinquard, J. P., 2050 W. 29th St., Los Angeles, Cal.

Merrill, Carlton Smith, 108 W. 2nd St., Los Angeles, Cal.

Hon, N. H., Story Bldg., Los Angeles, Cal.

Hanvey, C. B. H., from Berkeley, to Bank Bldg., Fair Oaks, Cal.

Hickman, Allen Ray, 1001 W. 22nd St., Los Angeles, Cal.

MacChesney, A. C., from Los Angeles to Clay and Hellman Sts., Monterey.

Banks, A. E., from 3872 5th St., San Diego, to Smith Bldg., San Diego, Cal.

De Ville, Leon, from Oakland to——

Pawlicki, C. F., from address unknown to Hopkins Bldg., Bakersfield.

Biggs, Elmer LeRoy, Trust & Sav. Bldg., Los Angeles, Cal.

Hanson, W. F., 1126 Angelina St., Los Angeles, Cal.

Herzstein, Morris, from 1404 Sutter St., to 805 Sutter St., San Francisco.

Boskowitz, G. H., from 1887 Sutter St. to 391 Sutter St., San Francisco.

Connolly, T. W., from 2529 Howard St., to Hearst Bldg., San Francisco.

Sutherland, H. H., from address unknown to I. W. Hellman Bldg., Los Angeles.

Walker, Agnes, from Belmont Hotel, to Hotel Normandie, San Francisco.

Titchworth, J. C., from 1800 Divisadero St. to 1881 Divisadero St., San Francisco.

Carpenter, F. W., from 995 Market St. to 33 Powell St., San Francisco.

Chapman, Florence P., from San Francisco to Corona, Cal.

Reud, Wm. R., from 3820 San Pablo Ave., Oakland, to Herald Bldg., Oakland.

Parish, H. L., from Thayer Bldg., Oakland, to 1124 8th St., Oakland.

Klein, W. C., from Los Angeles to St. Joseph's Hospital, Kansas City, Mo.

Rookledge, P. L., from Cambria to Wade Bldg., San Luis Obispo.

Harvey, W. P., from 240 Stockton St. to 391 Sutter St., San Francisco.

Stoughton, A. V., from Santa Cruz to 630 Harvard St., Claremont, Cal (Los Angeles Co.)

Hilton, H. J. T., 2703 Raymond Ave., Los Angeles, Cal.

Waller, Geo. P., from address unknown to 1415 Laurel St., South Pasadena, Cal.

Green, Nat., from address unknown to 120 E. 9th St., Los Angeles.

McEnery, W. A., from 86 Post St., San Francisco, to ——?

Van Dalsem, S. B., from Palo Alto to Porter Bldg., San Jose.

Wood, W. B., from address unknown to 1611 Marengo Ave., Pasadena, Cal.

Peebles, J. M., 519 Fayette St., Los Angeles, Cal.

Smiley, W. C., from Los Angeles to Beaumont, Cal.

Belknap, Florence A., from Fairfield Station, San Jose, to 3rd and Santa Clara Sts., San Jose.

Brown, Jos. Richard, from Napa to ——?

Bulson, C. H., from Veterans' Home to Napa, Cal

Frary, L. A., from Napa to Cloverdale, Cal.

Sponogle, F. M., from 821 Market St. to ——?

Gregory, A. M., from Turlock to Placerville.

Francis, L. H., from Sacramento to Tuolumne.

Stone, W. J., from San Quentin to Cheda Bldg., San Rafael.

Davis, Geo. W., from Lincoln, Cal., to 1170 Sutter St., San Francisco.

Crokat, Edw. A., from Pasadena to Arrowhead Hot Springs, San Bernardino Co., Cal.

Brown, Wm. L., from 534 Knox Pl., Oakland, to—

Autemeid, Felicia, from 598 Santa Rosa Ave., to—

Widney, J. P., from 150 W. Adams St., Los Angeles, to 3900 Marmion Way, Los Angeles.

Freedman, Chas., from Redondo, Cal., to Title Insurance Bldg., Los Angeles.

Gehring, G. P., Melrose Ave. and Grove St., Los Angeles, Cal.

Dickerson, W. L., from 626 Orange St., Long Beach, to 449 Pine St., Long Beach.

Peironnet, F. M., from Wilmington, Cal., to Los Angeles, Cal.

Byron, R. L., from Auditorium Bldg., Los Angeles, to Lissner Bldg., Los Angeles.

Hoskins, G., from San Francisco to Knob (Shasta Co.).

Dorr, L. L., from City and County Hospital, San Francisco, to St. Luke's Hospital, San Francisco.

Harrison, W. H., from 692 5th Ave., San Francisco, to 42 Market St., San Francisco.

Allan, Hamilton, San Diego, Cal.

Savage, Chas. W., 2339 Ward St., Berkeley, Cal.

Kellogg, W. H., from San Francisco to 2101 Dwight Way, Berkeley.

Nelson, Lois, from 1854 Cedar St., Berkeley, to 1608 Grove St., Berkeley.

Bancroft, I. R., from City Health Office, Los Angeles, to 2314 Lolta St., Los Angeles.

NEW MEMBERS.

Doyle, G. P., Bishop, Cal.
Brown, E. M., Los Angeles.
Maisch, A. F., Los Angeles.
Charlton, A. T., Los Angeles.
Bacher, J. A., Santa Clara, Cal.

DEATHS.

Dorroh, Jno. R., Angels Camp.
Johnstone, Arthur, died in New York.
Bates, Chas. Bell., died in Massachusetts.
Aiken, Edw., address unknown.
Allen, C. E., Stockton, Cal.
McMahon, Jno., San Jose, Cal.
Hatch, H. W., Oakland, Cal.
Kelley, J. W., died in Portland, Ore.
McCurdy, Samuel, died in Berkeley, Cal.
Young, Carrie F., Berkeley.
Ledyard, W. E., Alameda.
McNeil, Alexander, San Francisco.
Stelzner, Emil, San Francisco.
Wells, Edith C., San Francisco.
Combs, F. A., Visalia.
Wagner, Jno., San Francisco.
Smart, W. N., San Diego.
Schnabel, Martin, Bakersfield.